Walter H. Johns

301-15

University of Alberta
Long Range Development Plan

University of Alberta
Long Range Development Plan

A. J. Diamond and Barton Myers,
Planners

Planning Team

A. J. Diamond
Barton Myers
J. Wylie Freeman
Richard Gill

Consultants

Robert Smith — Management
Evan Walker — Housing
David Scott — University Management
Helyer, Vermeulen, Rae & Mauchan — Quantity Surveyors
De Leuw, Cather and Company of Canada, Limited, (Edmonton)
J. Levine — Analytical Methods for Planning in University Systems

Digitized by the Internet Archive
in 2025 with funding from
University of Alberta Library

https://archive.org/details/UAA-1972-218-081-2

1

Introduction

This report is divided into six parts: **1.** Introduction, **2.** Planning Process; **3.** Information Gathering and Analysis; **4.** Policy Assumptions; **5.** The Structure of the Long Range Development Plan and finally; **6.** Implementation. The divisions of the report follow the process of the planning task itself. Therefore reference to the Critical Path of the Planning Process (Diag. **2**) will provide an index to the work here described.

In addition to the six parts of the report, an Appendix is included. The Appendix contains (A) the tentative Institutional Goals and Objectives, (B) a summary of the feedback received after the initial presentation of the long range development plan on March 18th, 1969, (C) Building Construction Schedule, Phase I, (D) the terms of reference extracted from the agreement between the university and the planners and (E) bibliography.

At the outset it is well to draw the distinction between a conventional master plan and a long range development plan.

Master plans have traditionally given great attention to the formal aspects of physical planning. They delineate, with a high degree of specificity, the shape and design of the campus. Such plans for a campus of many buildings and complex needs are usually designed as a particular building is designed, with control over the particular form of each discrete element. In a single building project this form of control is possible and legitimate, as the elements of the building must be determined with exactitude and finality.

The campus, while also composed of a set of discrete elements, is unlike a single building in that the separate elements are added over a long time span.

At the time of the formation of the long range plan, each element cannot be determined with precision. Therefore if the plan for the campus as a whole is **dependent** on the formal and detailed aspects of design, either the plan is ensured of failure, as the needs of each project, as they become realized, will change the plan, or the building projects themselves will be unsatisfactory if they are forced to fit the procrustean bed of a restrictive master plan.

Consequently the long range plan sets down **principles** of physical organization. The plan structures common elements, for example, movement systems, distributes the required services in a rational manner, for example, food services or trucking, and demonstrates how best academic and non-academic affinities might be satisfied. Ideally the affinity of one type of space for another is the sum of a number of factors that indicate the relative desirability of having one space close to another. These factors include student movement, staff movement, service system and load bearing requirements.

The long range development plan is not intended to be an inflexible document. It is expected that refinements and modifications of both general goals and specific objectives will take place, indeed should take place: the plan is intended to be a working document of the university and of its Campus Development Office. This document should be used to uphold the principles of the plan, and implement the growth of the campus, on the general structure that has been devised.

The University of Alberta, situated on the south side of the city, and across the river from the main business centre of Edmonton, is part of an urban environment. While it has the luxury of the unbuilt upon and extensive river bank system adjacent to it, it is faced with development of increasing density on all other prospects. The city has one of the largest growth rates in Canada; it is subject to both centripetal and centrifugal growth forces. The university cannot be isolated from this condition: land costs are rising steadily. The university must become more resourceful in its use of this increasingly valuable commodity.

The operation of an institution the size of the University of Alberta is a complex one. This complexity will increase as the university grows in size and content. As the university expands on the present campus, so will surrounding development. Over time the number of possible ways to satisfy the needs of the campus will diminish. Without planning, satisfactions will, over time, become more difficult, and finally impossible or too expensive to achieve.

Diag. **1** summarizes the general planning process for the university. Diag. **2** is a critical path which was used to guide the formation of the long range development plan. It should be noted that the long range development plan in fact should come **after** the enunciation by the university of general goals, organizational objectives and the formation of policies: clearly the physical environment cannot be planned without regard to these goals, objectives and policies. The assumed policies that were formulated appear in Section 4.

For clarity, the following definitions are given: ***Goals are the long range purposes for which an institution exists. They have no particular locus. Objectives: are a statement of desired ends, with specific reference to the goals of the institution. Policy: courses of action to achieve the objectives.*** Given an articulated set of general goals for the institution, adequate information regarding the factors set out on Diag. **1** and information about size projections in terms of enrolment and output, a plan can then be devised to achieve the required satisfactions. Hence the first task undertaken was to identify the goals and objectives of the university, and to analyze the work of previous consultants.

The previous studies undertaken by the university consisted for the most part of demand studies, produced without reference to general goals, and were thus not modified by other relevant factors. For example, the traffic and parking study, while being an excellent work on its own, could not cater to unformed policies of pedestrian movement, new building locations, or the expanded university population projections.

After recording and analyzing the work of previous consultants, a series of design studies, covering the operation of the university as a whole, were undertaken. These are listed in column 3 of the critical path (diag. **2**) and were used as the basis for formulating goals and objectives, which more properly may be termed assumptions. The synthesis of these studies thus formed the overall plan, which was presented to the university on March 18th, 1969, ninety-four working days after the inception of the study. The outline report presented in March was intended to elicit a response from the university, in order to further evaluate the plan. Some feedback was received, and given consideration (see Appendix B). It has been incorporated, when deemed important, in this report.

Perhaps the most important constraint with which the planners have worked is the projected population of the university, and the time in which it is expected that the numbers projected will need to be accommodated.

At the time that the long range plan was commissioned, Academic Plan No. 8, which projected a student population of 18,900 by 1972-73, was in use. The university is now expanding at the rate of about 2,500 students a year. It soon became apparent that if the current trends were to be recognized, a more realistic figure of 27,000 by 1974 should be accepted: it was decided, on the advice of the University Planning Committee, to use a figure of 30,000 students by 1975-76. It should be understood, however, that this is only a planning figure, and that the decision on the size of the university is yet to be made.

Similarly the space figures for a 30,000 student campus that have been used were taken by the planners to be very tentative estimates. These were used as a guide to land use, with the understanding that a more detailed examination of space needs would be made when the size of the university is determined.

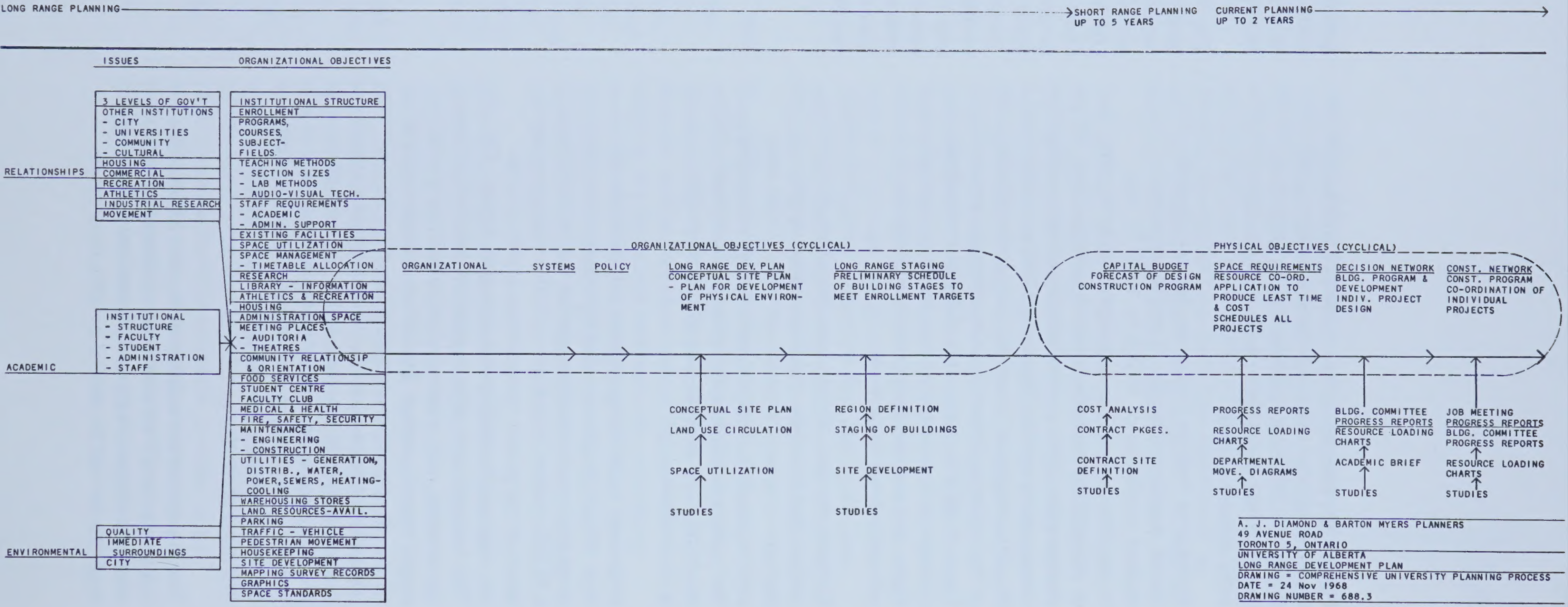
At present the building coverage is somewhat less than 15% of the campus. One intention of the long range plan was to discover whether the facilities for a 30,000 student population could be well accommodated on the greater campus area, which includes the main and North Garneau campuses (drwg. **F1**). This has been done at a coverage of some 34% of the campus area, with most new buildings of no greater height than six storeys. Thus it has been demonstrated that the present and projected land holdings are adequate for the expansion. It is important to stress that the plan is, in the main, concerned with the physical plant to accommodate the projected enrolment. It is not concerned in detail with the organizational and academic systems to accommodate this many students.

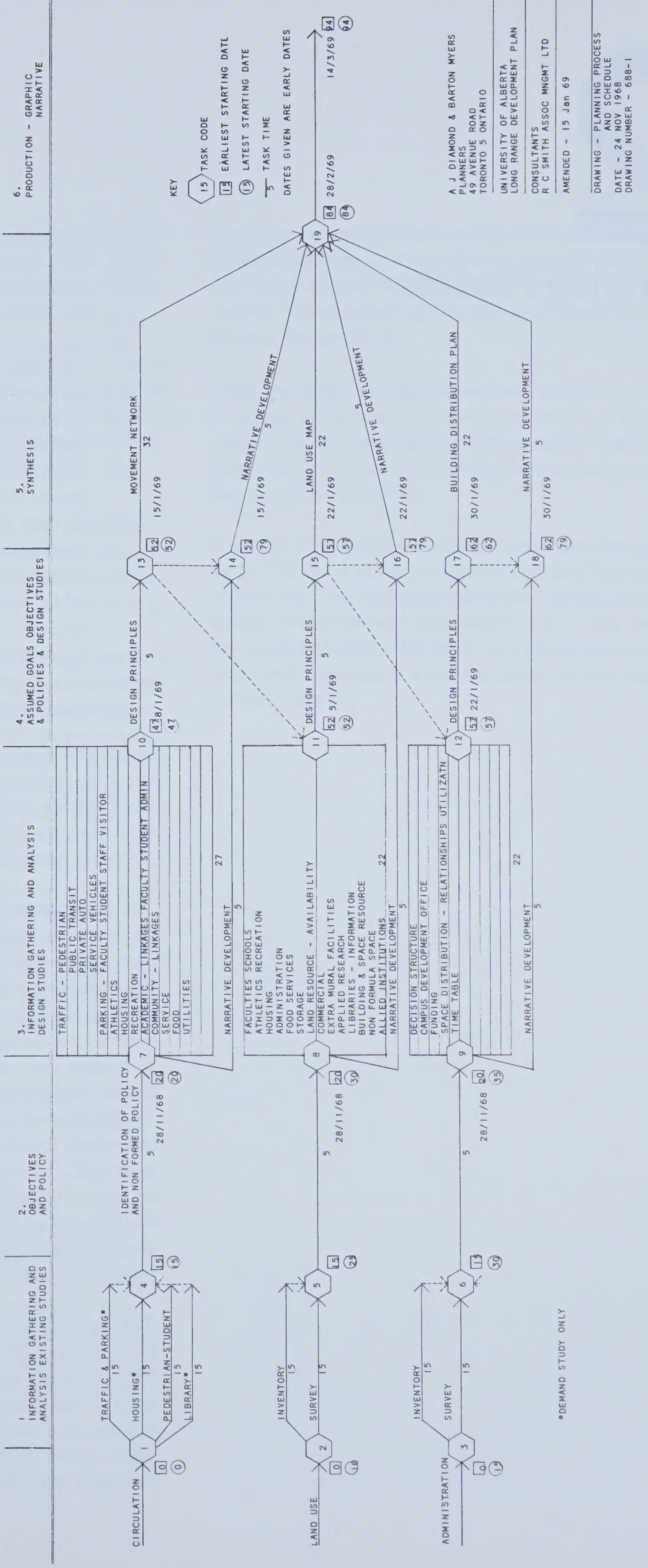
The plan shows the location of the first phase of the building program for which capital budget has been allocated (Appendix **C**), and also delineates what might be termed the second building program required for a 30,000 student campus (drwg. **G3**). Of course the two phases cannot be neatly subdivided; a development program of greater continuity will in fact be in operation.

The time available for the formation of the long range plan was short. That the task set the planners has been accomplished is due to the tremendous co-operation received from the Campus Development Office. Dr. W. H. Worth, Vice-President of Campus Development, has been of inestimable help; his contribution cannot be valued too highly. Walter Hiller, Alan Robertson and Richard Wilkin, of the Campus Development Office have made the planning operation as smooth as was possible. The enthusiasm and interest of the faculty and students whom we have met, the Board Building Committee under the chairmanship of Mr. R. K. Banister, and the Board of Governors under the chairmanship of Dr. J. E. Bradley, have been truly encouraging.

June 1969.

(Diag. 1)


LONG RANGE PLANNING
SHORT RANGE PLANNING UP TO 5 YEARS
CURRENT PLANNING UP TO 2 YEARS
ISSUES
ORGANIZATIONAL OBJECTIVES
RELATIONSHIPS
ACADEMIC
ENVIRONMENTAL
3 LEVELS OF GOV'T
OTHER INSTITUTIONS
- CITY
- UNIVERSITIES
- COMMUNITY
- CULTURAL
HOUSING
COMMERCIAL
RECREATION
ATHLETICS
INDUSTRIAL RESEARCH
MOVEMENT
INSTITUTIONAL
- STRUCTURE
- FACULTY
- STUDENT
- ADMINISTRATION
- STAFF
QUALITY
IMMEDIATE SURROUNDINGS
CITY
INSTITUTIONAL STRUCTURE
ENROLLMENT
PROGRAMS, COURSES, SUBJECT-FIELDS
TEACHING METHODS
- SECTION SIZES
- LAB METHODS
- AUDIO-VISUAL TECH.
STAFF REQUIREMENTS
- ACADEMIC
- ADMIN. SUPPORT
EXISTING FACILITIES
SPACE UTILIZATION
SPACE MANAGEMENT
- TIMETABLE ALLOCATION
RESEARCH
LIBRARY - INFORMATION
ATHLETICS & RECREATION
HOUSING
ADMINISTRATION SPACE
MEETING PLACES
- AUDITORIA
- THEATRES
COMMUNITY RELATIONSIP & ORIENTATION
FOOD SERVICES
STUDENT CENTRE
FACULTY CLUB
MEDICAL & HEALTH
FIRE, SAFETY, SECURITY
MAINTENANCE
- ENGINEERING
- CONSTRUCTION
UTILITIES - GENERATION, DISTRIB., WATER, POWER, SEWERS, HEATING-COOLING
WAREHOUSING STORES
LAND. RESOURCES-AVAIL.
PARKING
TRAFFIC - VEHICLE
PEDESTRIAN MOVEMENT
HOUSEKEEPING
SITE DEVELOPMENT
MAPPING SURVEY RECORDS
GRAPHICS
SPACE STANDARDS
ORGANIZATIONAL OBJECTIVES (CYCLICAL)
ORGANIZATIONAL
SYSTEMS
POLICY
LONG RANGE DEV. PLAN
CONCEPTUAL SITE PLAN - PLAN FOR DEVELOPMENT OF PHYSICAL ENVIRONMENT
LONG RANGE STAGING
PRELIMINARY SCHEDULE OF BUILDING STAGES TO MEET ENROLLMENT TARGETS
CONCEPTUAL SITE PLAN
LAND USE CIRCULATION
SPACE UTILIZATION
STUDIES
REGION DEFINITION
STAGING OF BUILDINGS
SITE DEVELOPMENT
STUDIES
PHYSICAL OBJECTIVES (CYCLICAL)
CAPITAL BUDGET
FORECAST OF DESIGN CONSTRUCTION PROGRAM
SPACE REQUIREMENTS
RESOURCE CO-ORD. APPLICATION TO PRODUCE LEAST TIME & COST SCHEDULES ALL PROJECTS
DECISION NETWORK
BLDG. PROGRAM & DEVELOPMENT INDIV. PROJECT DESIGN
CONST. NETWORK
CONST. PROGRAM CO-ORDINATION OF INDIVIDUAL PROJECTS
COST ANALYSIS
CONTRACT PKGES.
CONTRACT SITE DEFINITION
STUDIES
PROGRESS REPORTS
RESOURCE LOADING CHARTS
DEPARTMENTAL MOVE. DIAGRAMS
STUDIES
BLDG. COMMITTEE PROGRESS REPORTS
RESOURCE LOADING CHARTS
ACADEMIC BRIEF
STUDIES
JOB MEETING PROGRESS REPORTS
BLDG. COMMITTEE PROGRESS REPORTS
RESOURCE LOADING CHARTS
STUDIES
A. J. DIAMOND & BARTON MYERS PLANNERS
49 AVENUE ROAD
TORONTO 5, ONTARIO
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
DRAWING = COMPREHENSIVE UNIVERSITY PLANNING PROCESS
DATE = 24 Nov 1968
DRAWING NUMBER = 688.3


1. INFORMATION GATHERING AND ANALYSIS EXISTING STUDIES
2. OBJECTIVES AND POLICY
3. INFORMATION GATHERING AND ANALYSIS DESIGN STUDIES
4. ASSUMED GOALS OBJECTIVES & POLICIES & DESIGN STUDIES
5. SYNTHESIS
6. PRODUCTION - GRAPHIC NARRATIVE
CIRCULATION
TRAFFIC & PARKING* 15
HOUSING* 15
PEDESTRIAN-STUDENT 15
LIBRARY* 15
IDENTIFICATION OF POLICY AND NON FORMED POLICY 5
28/11/68
TRAFFIC - PEDESTRIAN
PUBLIC TRANSIT
PRIVATE AUTO
SERVICE VEHICLES
PARKING - FACULTY STUDENT STAFF VISITOR
ATHLETICS
HOUSING
RECREATION
ACADEMIC - LINKAGES FACULTY STUDENT ADMIN
COMMUNITY - LINKAGES
SERVICE
FOOD
UTILITIES
27
NARRATIVE DEVELOPMENT 5
DESIGN PRINCIPLES 5
8/1/69
MOVEMENT NETWORK 32
15/1/69
NARRATIVE DEVELOPMENT 5
15/1/69
LAND USE
INVENTORY 15
SURVEY 15
28/11/68
FACULTIES SCHOOLS
ATHLETICS RECREATION
HOUSING
ADMINISTRATION
FOOD SERVICES
STORAGE
LAND RESOURCE - AVAILABILITY
COMMERCIAL
EXTRA MURAL FACILITIES
APPLIED RESEARCH
LIBRARIES - INFORMATION
BUILDING & SPACE RESOURCE
NON FORMULA SPACE
ALLIED INSTITUTIONS
22
NARRATIVE DEVELOPMENT 5
DESIGN PRINCIPLES 5
5/1/69
LAND USE MAP 22
22/1/69
NARRATIVE DEVELOPMENT 5
22/1/69
ADMINISTRATION
INVENTORY 15
SURVEY 15
28/11/68
DECISION STRUCTURE
CAMPUS DEVELOPMENT OFFICE
FUNDING
SPACE DISTRIBUTION - RELATIONSHIPS UTILIZATN
TIME TABLE
22
NARRATIVE DEVELOPMENT 5
DESIGN PRINCIPLES
22/1/69
BUILDING DISTRIBUTION PLAN 22
30/1/69
NARRATIVE DEVELOPMENT 5
30/1/69
28/2/69
14/3/69
*DEMAND STUDY ONLY
KEY
15 TASK CODE
15 EARLIEST STARTING DATE
15 LATEST STARTING DATE
5 TASK TIME
DATES GIVEN ARE EARLY DATES
A J DIAMOND & BARTON MYERS
PLANNERS
49 AVENUE ROAD
TORONTO 5 ONTARIO
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
CONSULTANTS
R C SMITH ASSOC MNGMT LTD
AMENDED - 15 Jan 69
DRAWING - PLANNING PROCESS AND SCHEDULE
DATE - 24 NOV 1968
DRAWING NUMBER - 688-1

(Diag. 2)

2

Planning Process

The process that was followed was

1. to record and question the aims or goals of the university
2. to analyze the work of previous consultants
3. to identify those areas in which no firm position had been established
4. to make an inventory of existing conditions
5. to establish the magnitude of projected growth and its timing
6. to undertake studies in the areas of question in point (1) and for the areas identified in point (3)
7. to test, as far as possible, the results of the studies in point (6)
8. to synthesize the results of all work in the form of a long range development plan.

This process is graphically described in the Critical Path of the Planning Process (diag. 2) referred to briefly in the Introduction.

In the absence of formulated goals, the Comprehensive Planning Process was formed (diag. 1) in order to demonstrate the way in which the formation of a physical plan is a part of a larger, more comprehensive planning process.

The Comprehensive University Planning Process might be termed a logic diagram, one in which a sequence of events or factors are shown, each step dependent on the preceding one. It indicates that the goals of the institution, and its organizational objectives, change infrequently,much as a society's implicit goals rarely change, or change very slowly over time: it took universities a great deal of time to change from scholarly enclaves, for the pursuit of knowledge for its own sake, to places where forms of professional, secular training were provided. It is only now, after a similarly long period of time, that universities are questioning their role, and are becoming interested in providing a community service, after having been exclusively concerned with academic excellence.

The Systems and Policies used to reach goals change more rapidly than the goals themselves do. The use of technology as an academic aid is accelerating the pace of the change of means. It is these forms of change, and modifications to the projected physical plant, that the long range plan must sustain without having its structure or principles destroyed.

The last steps in the logic diagram are those concerned with the implementation of building programs. These are dependent upon the needs of each faculty, capital budget, enrolment and demand considerations.

From this description it can be seen that the formation of a long range development plan, primarily concerned with the physical plant of the university, lies well along the path of the logic diagram, yet preceding the construction of the plant to house the institution.

In the absence of a comprehensive set of articulated goals and objectives, it was apparent that a number of assumptions would have to be made: it is difficult for a large institution composed of diverse components to succinctly formulate goals, objectives and policy. In the short time available for the preparation of the long range plan it was impossible to constitute a task force within the university to accomplish this necessary work. Therefore as many meetings with representative components of the university were arranged, in order that the planners could set down tentative goals and objectives. Reference may be made to the Progress Reports written for the Campus Development Office during this phase of the work, which recorded the views and information supplied by faculty, staff and students. This was done for two reasons, the first being the need to make as well founded assumptions as possible on which to base the plan, and second, to use the articulated physical objectives and policies as a focus for the university, in order that the university might properly reform them as it sees fit.

Formed objectives and policies are identified in Section 3. The planners' assumptions for unformed policies are summarized in Section 4.

In addition to using the device of meetings to derive the subsequently identified physical objectives and policies, the planners used a paper prepared by the Task Force on Goals and Objectives, Temple University, Philadelphia to elicit a response regarding the longer range institutional goals and objectives. While the situation at Temple is not entirely comparable to that of the University of Alberta there are, broadly speaking, urban and current issues of sufficient relevance dealt with in that paper to warrant serious study. For this reason a modified version is included in this report. These appear as Institutional Goals and Objectives in Appendix A.

Once the goals and objectives were outlined, a series of design studies were undertaken (refer to diag. 2, column 3) to examine alternate means of satisfying the problems posed by existing inadequacies, and by the projected growth.

A series of alternative schemes were then designed and tested for their effectiveness in reaching the required objectives. The best compound was subsequently selected, and appears in this report as the long range development plan. This plan, as a consequence of the responses received, is a modification of the plan published in March.

3

Information Gathering

The inventory was made graphically on transparent overlays at a standard scale of 1'' —100'-0'' in order to readily assess both existing and projected conditions, measure projected space needs, determine the required locus of academic departments, analyze movement systems and utility and service needs. Reference to the Critical Path (diag. 2) will give a comprehensive list of the issues considered.

The drawings prepared and included in this report are as follows:

Set A — 1. 67-68 Space inventory by building.
2. 67-68 Space inventory by building, colour coded.
3. Departmental splits.

Set B — 1. Faculty space requirements for a 30,000 student campus.
2. Scheduled new facilities.
3. Surplus and deficit space for a 30,000 student campus.
4. Desired faculty linkages.

Set C — 1. Faculty loci and support facilities.
2. Inter and intra faculty relationships.
3. Academic service functions.
4. Facilities.

Set D — 1. Major circulation — service routes.
2. Pedestrian.
3. Street and surface parking.

Set E — 1. Existing and proposed utilities — sewers.
2. Water and steam lines.

Set F — 1. Land and building resource — university boundaries.
2. Deletions and additions to building stock.
3. Existing buildings.
4. Existing buildings (which will be replaced).

In addition to the formation of the graphic inventory, an analysis was made of all previous studies commissioned by the university to determine the adequacy of the recommended policies and objectives regarding specific issues. These policies and objectives were listed on charts indicating their source, and were then tested in a series of discussions held with Dr. W. H. Worth and members of the Campus Development Office. The planners then made assumptions about objective and policy formation where no official policy existed. These assumptions were based on the stated goals of the institution and on the planners' own expertise.

The format used to structure the discussion of each issue follows: sources of information; review of findings of previous studies and our own graphical inventory; identification of formed objectives and policy; the implications of external variables; description of design studies. The planners' recommendations for unformed objectives and policy for each issue are summarized in Section 4.

Traffic.

Sources of information:
Associated Engineering Services Ltd.
— Traffic and Parking Study.
— Supplementary Study.
METS report — Volume I and II.
Meetings with the city traffic department.
Meetings with the Edmonton Transportation System.
Consultation with De Leuw Cather Ltd.
Interviews with Dr. W. H. Worth and the Campus Development Office.
Climate: North Garneau Development Report I, Bittorf-Pinckston.

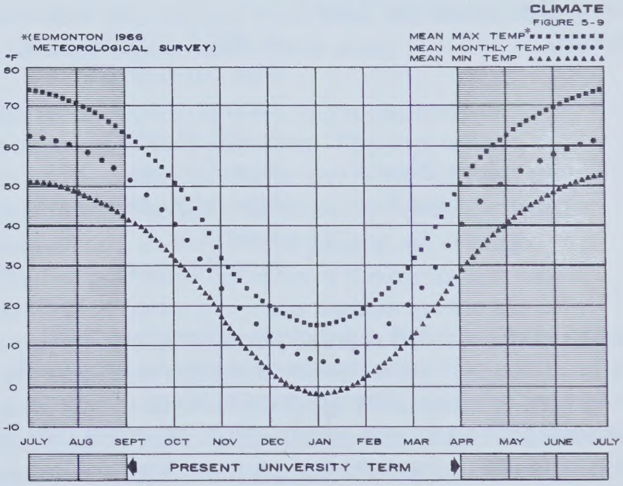
(1) Pedestrian.

Pedestrian movement in the existing campus is impeded by several heavily used traffic arteries. The A.E.S. study cites the major pedestrian flow (1,200 to 1,500 persons per day) from the Lister complex across 87th Ave. to the campus. This report also notes that there is heavy movement across 116th, 114th, 112th Sts. and 89th Ave. These locations represent crossings which are hazardous to the pedestrian, and which obstruct traffic flow. In the winter pedestrian movement is impeded, as the climate forces students to cut through academic and administrative buildings which are not designed for this purpose. The result is congestion in narrow corridors and at entranceways.

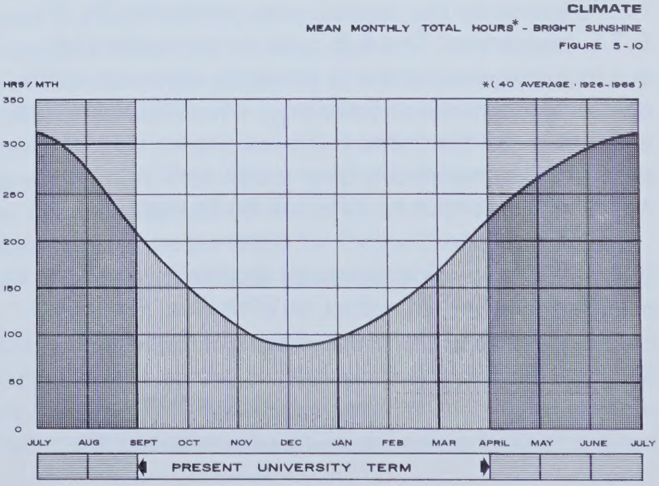
Present university policy accepts the use of building corridors as through circulation routes, except in hazardous areas (such as through radiation laboratories), but no policies have been formed for either the provision of proper climate protection by the linkage of buildings, or the incorporation of pedestrian streets of adequate width within buildings. Further, no official policy has been adopted concerning separation of pedestrian and vehicular traffic to permit unimpeded flows. At present, policy with regard to class change time is 10 minutes.

The importance of considering climate as a factor in planning the campus becomes apparent if an examination of climatological data is made:

The University of Alberta at Edmonton (53' 35" N) is sited in a region of cold temperate climate. The severe and long winter season creates serious environmental problems. It is of particular significance that the university plan must be designed for an academic year that coincides with the severe winter. Since there is also a moderate usage of the university facilities during the summer session, design flexibility for seasonal extremes must be taken into account.



(Diag. 3)



(Diag. 4)

Mean relative humidity	71.0%
Average summer temperature	58.3°F
Extreme hot temperature	99°F
Average winter temperature	13.3°F
Extreme cold temperature	–57°F
Average annual precipitation	18.64 inches
Seasonal fall — in period April to September	65%
Mean annual precipitation (rain)	13.26 inches
Mean annual snowfall	53.8 inches
Mean annual total sunshine hours	2,214.2 hours
Average wind speed — miles per hour	8.9
Highest velocity	from N. W.
Prevailing direction	from South
Average winter snow depth	7 inches
Extreme winter snow depth	16 inches
Sun angles: December 22nd (lowest)	N 48° E (rises) Max. altitude 41° (noon) N 48° W (sets)
June 22nd (highest)	N 48° (rises) Max. altitude 60° (noon) N 48° W (sets)

Design studies carried out include: alternative building locations with reference to existing and projected movement systems; alternative methods of obtaining linkages; phasing of new construction; potential conflicts between pedestrians and vehicular traffic.

(2) Public Transit.
Public transit to the campus now is provided by the E.T.S. bus service. The A.E.S. study concludes that bus service to the campus is presently adequate and is operating at capacity. However, if the campus expands at the rate indicated, and if the bus service is to keep pace with the expansion, then major road improvements in the campus vicinity will be necessary.

Bus drop-off points as presently located increase the pedestrian-vehicular conflict on 87th Ave. For example, the stop at the south-west corner of 114th St. and 87th Ave. means that those arriving by bus must cross the heavily travelled 87th Ave. The left hand turn of buses and weaving now required disrupts smooth traffic flows on 87th Ave. The location of bus stops with respect to major concentrations of student population is poor. This will be especially true of the concentration at the north end of the campus, in particular the Biological Sciences complex.

There is no adequate provision for bus pull-off on heavily travelled streets surrounding the campus, which further impedes the smooth traffic flow. Inadequate shelter is provided at bus stops for use in cold and inclement weather.

The university at this time has no official policy regarding the inadequacies in the present public transit system, nor does it have any specific policy with regard to the encouragement of the use of public transit. However the policy of favouring the use of public transit is implicit in A.E.S. recommendations, in that parking spaces provided on campus will be minimal, that is, the number of parking spaces recommended should equal one quarter of their projected student population (6,000 out of 24,000).

At the time of writing this report, the completion date of a mass rail transit line serving the university has not been decided. However, the earliest date possible would be 1973, by which time the university expects to reach a population of 27,000 people. Efficient public transportation therefore will be dependent on expanded bus capacities.

The design of the mass rail transit line at present indicates that a station will be located at the intersection of 87th Ave. and 112th St., with exits on all four corners. This is intended to serve the Health Sciences Centre, the university and the commercial development of South Garneau: the station in the latest design has a sub-grade mezzanine connecting the south and north sides of 87th Ave., linking the community to the campus.

In view of enrolment projections, the planners recommend that the university encourage the construction of a mass transit system, and endorse the proposed station design and location at 87th Ave. and 112th St. The university has indicated that it favours the development of air rights over the subway.
Design studies undertaken include alternative bus routing and drop-off points; locations of projected student concentration; required road improvements.

Projections were made on model splits, based on housing provided on campus, and rates of automobile ownership.

(3) Private Automobile.
The primary source of information regarding traffic flow in and around the university were the A.E.S. studies. The problem or congestion areas identified are 87th Ave. between 109th and 116th Sts., Saskatchewan Drive, 112th St. at 87th Ave. and 114th St. at 82nd Ave. This congestion, caused by the complexity of turning movements at intersections is due in large measure to the mix of university bound traffic and through traffic using 87th Ave. and 114th St.

Since the A.E.S. study was based on a 24,000 campus, many of its findings were re-examined. For example, the A.E.S. report recommended the adoption of a ring road comprising of 87th Ave., 116th St., 112th St. and Saskatchewan Drive with parkades dispersed around the perimeter of the campus. It was felt necessary to examine both the concept of the ring road, as well as its location, in view of the updated enrolment projections. Anticipated university bound traffic volumes are discussed under PARKING.

To aid the planners in assessing the impact of a 30,000 student campus on the city, meetings were held with the city traffic department to determine existing and future capacities of streets in the vicinity of the campus, and projected desire lines of both university bound and through traffic in the university vicinity. Projected phasing of new road and bridge construction was also evaluated in regard to the effect the proposed phasing would have on traffic loads to be bourne by the campus and its environs.

The road improvements and phasing, as proposed by the city, that will affect the university are as follows:

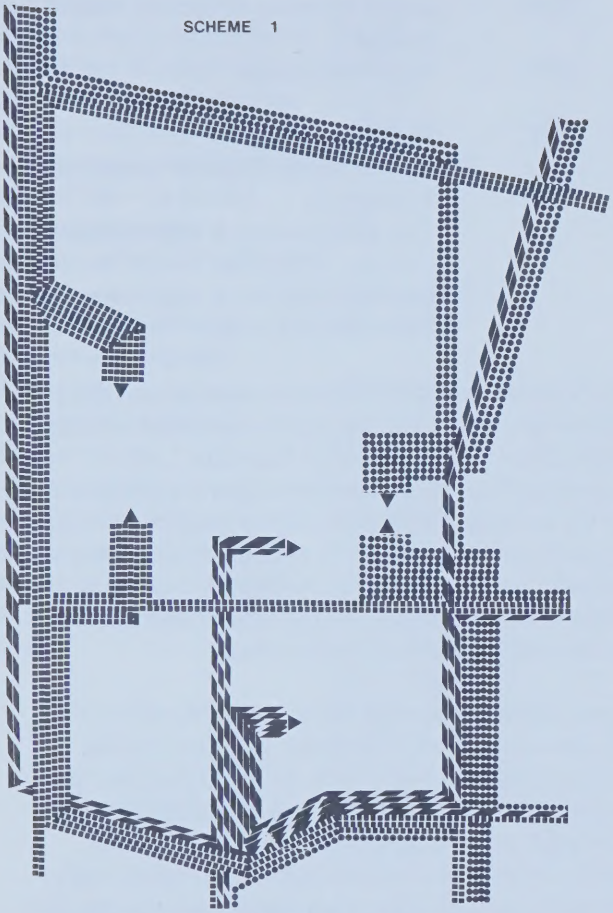
1. 1970 — connection of Saskatchewan Drive to 87th Avenue
2. 1970± — upgrading of 87th Avenue.
3. 1972± — Jasper Freeway — west of Groat to 49th St.
4. 1974 — completion of 105th Street bridge.
5. 1974 — connection of Saskatchewan Drive to 105th Street Bridge.
6. 1975 — 88th Avenue across Mill Creek with connection to Saskatchewan Drive at 101st Street.
7. 1975+ — Jasper Freeway (Groat to 105th St. bridge)
8. 1975 — High level bridge.

9. 1975 to 1980 — High level bridge.
   Saskatchewan Drive to Walterdale connection.
   One way systems & improvements 109 and 110th Sts.
   One way systems & improvements 87th and 86th Ave.

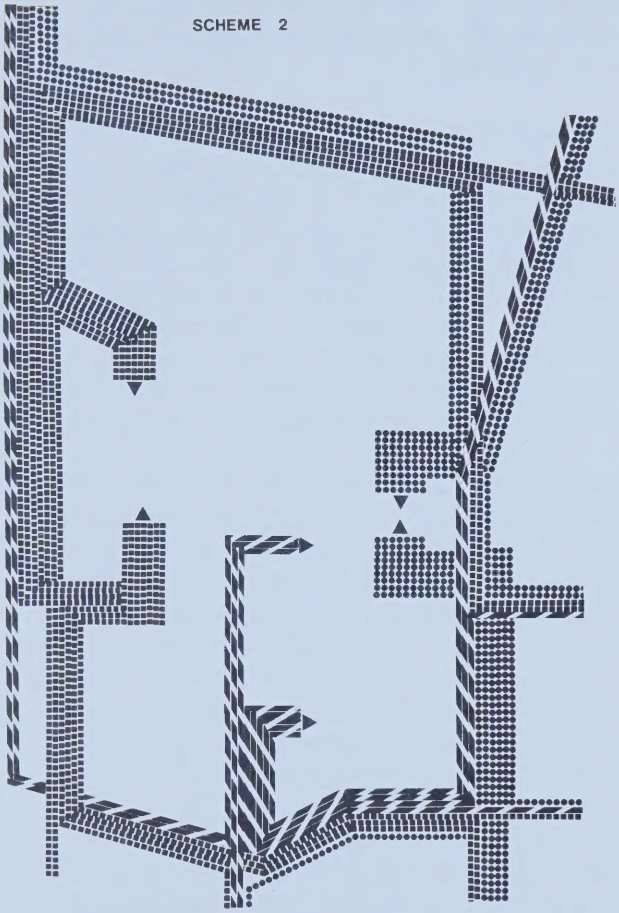
To enable an evaluation of these external variables, preliminary traffic studies were undertaken with De Leuw, Cather and Company of Canada, Ltd. (Edmonton) to assess alternative distribution systems for the campus. These were further studied in relation to future building locations, pedestrian and bus systems and parking locations. A series of recommendations were thus derived from these studies and from the assumed objectives in other areas.

These recommendations led to the exploration of two alternative traffic schemes. The first scheme retained Saskatchewan Drive and 87th Ave. and the second recommended that those two thoroughfares be phased out. In the second scheme, all through traffic has been eliminated from the campus; a concentration of parking is made feasible via the use of a one-way distributor system; smooth flows are insured by the reduction of intersections. In this second scheme, distribution of traffic to the university is accomplished by use of city streets, including the Jasper Freeway, the south freeway, 82nd Ave. and University Ave., and Groat Road. In the first scheme studied a ring road similar to the A.E.S. recommendation makes the dispersal of parking structures around the perimeter including 87th Ave. possible. This dispersal of facilities is necessary as, in this scheme, more intersections and traffic light controls are required. Flows are, as a consequence, not as smooth as in the one-way system. Perhaps of greater significance is that the capacity and convenience of 87th Ave. would be severely curtailed by frequent and heavily used intersections and by weaving traffic.

The implications of these two schemes were studied in a preliminary analysis of flows of university traffic only. The conclusion reached was that major road improvements in and around the campus need to be



(Diag. 5)
●●●●●●●● 400 vehicles to west sector
▪▪▪▪▪▪▪▪ 400 vehicles to North Garneau
▬ ▬ ▬ 400 vehicles to HSC & central drop-off



(Diag. 6)
●●●●●●●● 400 vehicles to west sector
▪▪▪▪▪▪▪▪ 400 vehicles to North Garneau
▬ ▬ ▬ 400 vehicles to HSC & central drop-off

made for either of the two schemes, or for that matter any scheme, in order to accommodate the increasing amounts of both university and non-university bound traffic. (Refer to flows on diag. **5** and **6**). The improvements required in the two schemes studied are similar to those proposed by the city traffic department. In the two schemes studied by the planners, however, interchanges may be required at 114th St. and 82nd Ave., at 112th St. and 82nd Ave. and at 87th Ave. and Groat Road. Further, a realignment of the curve on 82nd Ave. may be necessary to achieve good traffic flows. A further turning movement has been added on Saskatchewan Drive, the south freeway interchange, in order to permit cars exiting from the North Garneau parking area to drive over the high level bridge: this movement can be accommodated if the south freeway is realigned 100′ — 0″ to the west. In all other regards the intersection is unchanged from the earlier De Leuw, Cather and Company of Canada, Ltd.'s proposal.

It should be clear that a roads improvement program in and around the campus is required in order to meet the demands of traffic generated by the university. The problem takes on some urgency when it is realized that it is conceivable that the university will have a student population of 27,000 by 1974. This does not allow, if the traffic problem is to be solved, a long term phasing of the roads improvement program. The position at present is such that insufficient capital funds are available to make the required improvements. However, a joint university-city-province committee has now been established to study the implications of these requirements and the traffic plan recommended in this report.

(4) Internal university circulation.
With the exception of the vehicular-pedestrian conflict on 89th ave., the internal university circulation has been solved without a major construction effort required. The policy presently accepted by the university is that access by cabs and car drop-off to the campus is necessary: common drop-off points can be used in conjunction with climate controlled pedestrian access, to serve ultimate destinations. All buildings, however, require direct access by service and emergency vehicles.

Design studies undertaken include the location of drop-off points and service roads in relation to existing and future building locations.

Parking.

The A.E.S. study concludes that there is a severe shortage of parking space on campus. In 1966, the current demand was for 6,500 spaces, while the total spaces administered by the university was only 3,200 spaces. This situation has resulted in parking cars on surrounding streets, further increasing traffic congestion in the vicinity of the campus. University policy accepts that parking should be provided according to demand and that parking fees be so structured that parking will be self-supporting.

A number of systems for estimating parking loads were examined, including:

(a) the results of an A.E.S. questionnaire, **Survey of Major Urban Universities over 15,000 Students,** which found a standard of 200 to 300 spaces per 1,000 persons on most urban campuses.
(b) The A.E.S recommendation of 6,000 spaces for a 24,000 student campus.
(c) The Wilbur Smith standard, from **Access and Parking for Institutions** which recommends 500 to 600 spaces per 1,000 students.
(d) U.C.L.A. parking policy which revealed that in 1966-67, 365 spaces for every 1,000 were provided. Projections call for 400 spaces for every 1,000 persons by 1975.

It was decided to use the Smith standard of 500 cars per 1,000 students, since it is known that at most of the urban universities surveyed by A.E.S. the amount of parking provided is inadequate, and student car ownership is increasing. Further, the earliest completion of the subway servicing the university area will be in 1973, when the university expects to have an enrolment of approximately 27,000 students. In addition, a study of the student location maps in the Stanley Report on Housing shows the rapid transit in the initial phase will serve a very small proportion of the total student enrolment.

A graph by Wilbur Smith which correlates land costs and structure vs. deck vs. open lot costs, indicates that at land costs in excess of $5.00 per sq. ft., a parking structure is economically justifiable. Land costs in South Garneau are now estimated at $8.00 per sq. ft. This indicates that a policy of parking cars under new buildings when possible and in parking structures is a feasible one.

An A.E.S. survey of fee structures at other universities shows that the University of Alberta has the lowest student parking fee and one of the lowest faculty fees. The University of Toronto now charges $60.00 a year per student and $120. per year for faculty. In view of the higher fees at other urban institutions, the University of Alberta need not be reticent in raising fees to amortize the cost of parking structures.

In addition to studies of car park locations, meetings in Edmonton were held with members of the Campus Development Office, Mr. J. H. Read and Mr. J. A. Vandergiessen (Read, Jones, Christoffersen Ltd. Consulting Engineers) on the proposed car park No. 1. The planners' recommendation of the location adjacent to 89th Ave. was accepted.

Athletics and Recreation.

Sources of information:
Reports received from Dean M. L. Van Vliet and directors of intramural sports.
Discussions held with Professor J. S. McCutcheon, Assistant Director of Athletic and Recreation and Director of Intramurals, University of Toronto.

Essentially the reports establish the shortage of recreational facilities. It is our understanding that all facilities are available for recreational use when not used for scheduled activity such as intercollegiate and intramural programs. However, the athletic and recreational facilities at the University of Alberta are so heavily engaged that they are not available for general student participation.

The Stanley Report, essentially a demand study, recommends that for an assumed campus of 24,000 students, housing for approximately 6,000 students (60% of the student population not from Edmonton) should be provided. However, this recommendation has not been accepted by the university as official policy. These standards require further examination.

The following considerations here summarized have aided the planners in formulating recommended policy:

Housing forms have been evolved as a compromise between residential colleges of the English kind and dormitories of the German form; these may be called 'halls of residence'. While satisfying the needs of some students, usually freshmen, they are not the only answer to housing on campus. Essentially, the need is for a variety of housing forms to cater to individual preferences and changing attitudes as the student progresses through university.

The variety of the forms of housing required are not only physical alternatives serving different student groups, but should also provide alternative forms of control and administration, support facilities and location.

The location of housing more often than not is in accordance with the 'labour' notion: students leave their place of residence in the morning, journey to work and return in the evening, much as a suburban commuter does, that is work place and home are distinct and separate.

The Robbins Committee on the Aims of Higher Education states "there is a function that is more difficult to describe concisely but that is nonetheless fundamental: the transmission of a common culture and common standards of citizenship".

The concept of a university community can be given realization by providing as many activities and facilities in mixed development on the campus as possible. Rather than asking what housing can do to improve only the academic efficiency of the student, the question of how housing could provide a richness to the life of the campus should be posed.

Paradoxically, housing,which is richly endowed with recreational facilities, may, in the larger sense of the university as a whole, stifle inter-student contacts, separating resident and non-resident student: support facilities such as dining or recreation may be used effectively as links between resident and non-resident, undergraduate and graduate, and even faculty and student. In addition, the mix of academic space and housing units to make a larger scale college should be considered.

The details of unit sizes and room groupings require careful consideration: group dynamics, if neither understood nor catered to, can cause unnecessary alienation on the part of some students arranged in inconvenient grouping configurations.

The Stanley Report on Housing establishes that 55% of the students now attending the university live in Edmonton. This figure may be affected by several variables which should be studied before conclusions are reached about projected demands for university housing. These variables include policy with respect to the establishment of new universities in other centres in Alberta, satellite colleges within Edmonton, the role of the University of Alberta as a predominantly graduate university, projected development of the areas surrounding the campus and decisions in regard to the length and timing of the academic year.

In view of the foregoing, the standard recommended by The Stanley Report, that is housing for 6,000 students should be changed. We assume now that the university will house as many as possible on campus. The exact numbers are yet to be determined by the university. In meetings with the students, several other factors emerged which guided policy formation.

Academic Linkages.

Sources of information :
University's Commission 'Inventory of Building Space' 12/1/67
University's Commission 'Inventory of Building Space' 12/1/68.
Detailed programs by individual faculties or departments.
Submissions from faculties concerning interdepartmental interaction and desired linkages.
Discussions with Campus Development Office.
Academic Plan No. 8.

other institutions and clinics throughout the city.
- Very little inflow from other faculties.

Faculty of Dentistry:
- Moving to Health Sciences Centre.
- Strong links with other Health Science disciplines and facilities.
- Clinical work causes inflow from city.

Faculty of Nursing:
- Moving to Health Sciences Centre.
- Strong links with other Health Science disciplines and facilities.
- Desire for undergraduates to take courses in other parts of campus.

Faculty of Rehabilitation Medicine:
- Moving to Health Sciences Centre.
- Strong links with other Health Science disciplines and facilities.

Space Projections.

Refer to inventory drawings B—I, B—2 and B—3.

Sources of information:

B—I — Faculty space requirements for a 30,000 student campus: 'Projected space needs 30,675 student university' from Space Planning Division, Campus Development Office — WHW — 12/7/68.

B—2 — Scheduled New Facilities:
Preliminary planning and construction schedule for priority facilities — Campus Development Office — 18/10/68.
Schedule B — Proposed capital expenditures — 1967-74 inclusive — Campus Development Office — 18/10/68.
Information concerning construction not on these schedules was received from the Campus Development Office.

B—3 — Surplus and deficit space for a 30,000 campus —Difference between data contained on drawing **B—1** and that on drawing **B—2.**

In addition to the discrepancies between projections, several other limitations should be noted: the projections are dependent upon the existing educational systems; it was assumed that a fourth university in Alberta will not commence in time to affect student population projections; a standard formula was used to obtain space requirements; generally there are inadequate allowances for non-formula space.

Community Linkages.

An urban university is not simply an institution that happens to be engulfed by the city, but a particular kind of place which is still a part of its social, economic and physical environment: universities make substantial contributions to the economy; their physical presence is not missed; their students and staff have social interrelationships with the community — housing and shopping not being the least among these. To view the university, therefore, as a separate enclave is to display a nostalgia for the rural campus which is at odds with reality.

The significance and implications of community linkages have been discussed under Section 2 "The Planning Process". Findings and policy recommendations presented here are subject to the formulation of goals by the university regarding interaction with the community.

At present there is a strong interaction between a major community facility, the Health Sciences Centre, and the university. However, a major artery with a high proportion of through traffic now splits the hospital complex from the campus, making a good physical connection very difficult (refer to Traffic — Pedestrian). In a similar way, another major facility, the Jubilee Auditorium, used jointly by the university and the community, is isolated from the campus by a major traffic artery and a 600 space surface parking lot.

Convocation Hall is a university facility that is heavily used by the community. However, in its present location, it is not easily accessible to the public and parking for users of Convocation Hall is inadequate.

A spontaneous response to the economic impact of the campus is evident in the South Garneau district, for example, shops, Campus Towers and numerous other apartment complexes in which students find accommodation.

The possible location of a subway stop at 87th Ave. and 112th St. will provide an excellent opportunity for community-university linkage: a mezzanine level

academic decisions beyond their field of competence, there is a clear indication that the implications of alternate academic systems need to be analyzed, in order to yield the consequent resources in men, money and space required by each system. Thus authorative decisions may be made, in the knowledge of the cost and efficiency of one system compared to another. In view of this, a policy recommendation formed by the planners is to design linkages and group general use spaces so that a future policy change to support the interdisciplinary unit concept can be accommodated.

Administration.

In discussion with Dr. W. H. Worth, it was learned that the university is satisfied with the present location of Administration and that the split into two buildings presents no problems. According to the Projected Space Needs for a 30,675 University (Campus Development Office – 20/12/68), Administration will require approximately twice as much area as it presently occupies.

The relation of Administration to the Computer Centre may prove of prime importance since it is understood that presently Administration is the largest user of computer time on campus. If a terminal is adequate, this may not be a consideration. Further, it is conceivable that Administration may operate its own computer. A linkage to the Students' Union may be a factor in the efficient operation of, for example, the registrar's office.

In further analysis of location with Dr. Worth, it was concluded that renovation of the Medical Science building would give Administration both the area it requires and a location with good accessibility for students and the public.

Land Resource.

Sources of information:
Campus Development Office land cost estimate (unofficial).
Riverbank Stability Study.

Buildings presently cover approximately 15% of the total campus area while a major proportion of the site is devoted to surface parking, vehicular circulation and poorly located open space. As mentioned earlier under Parking, land costs in excess of $5.00 per sq. ft. mean that parking structures will be more economical than surface parking. An appreciation of the present under-utilization of the university land can be gained by examination of commercial development in South Garneau where building heights, which reflect land costs amongst other variables, are reaching 20 storeys.

The planners therefore recommend that building coverages be increased to make more efficient the utilization of land. Where possible, the use of roofs should be encouraged, for example the top of parking garages could be used for sports facilities.

The planners accept the policy of not building closer than 150' from the top of the riverbank, according to the recommendations of the Riverbank Stability Study.

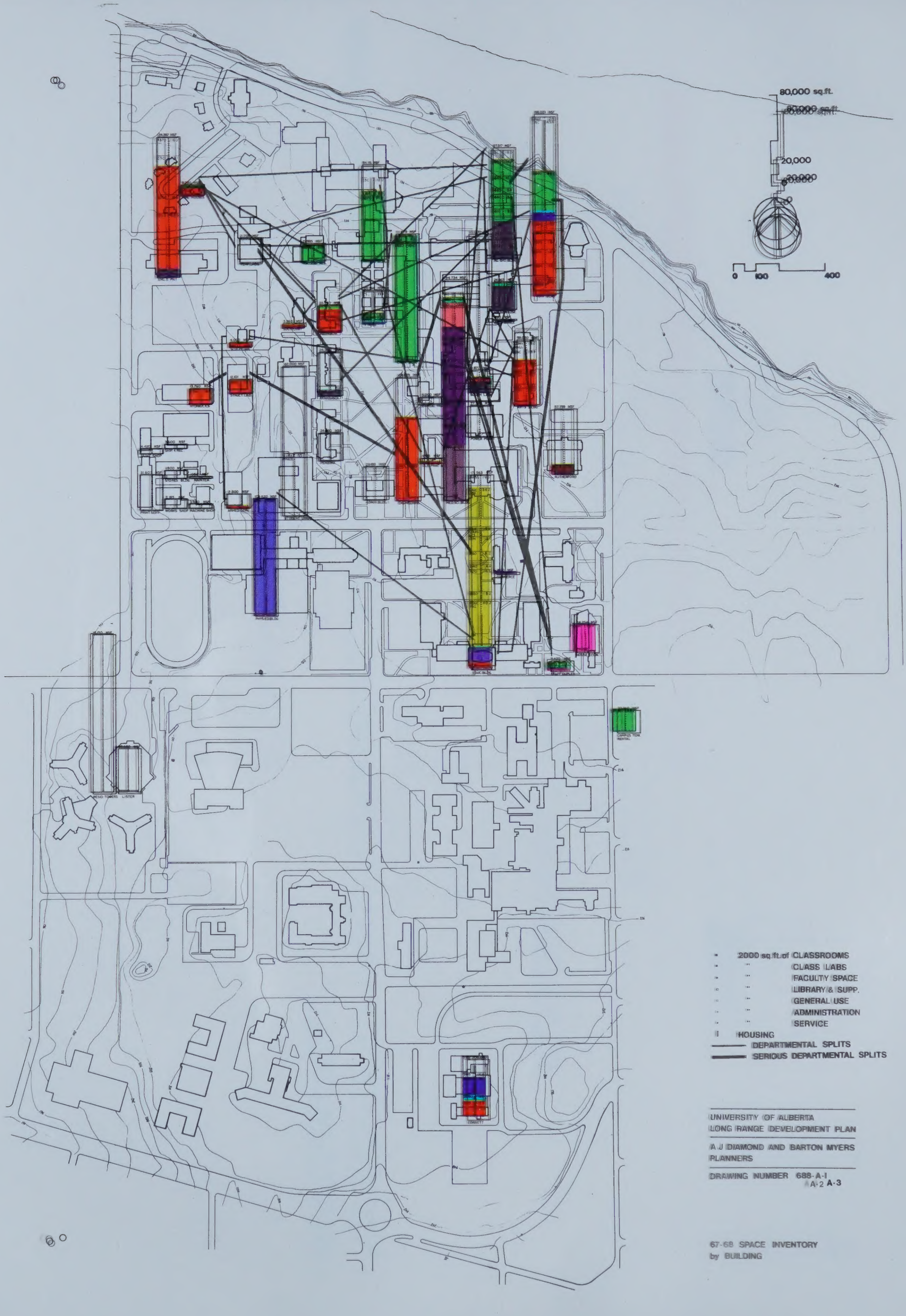
Commercial.

Present university policy does not accept commercial development on the campus. It is understood however that this policy may be reviewed. In order to assist in the establishment of a well rounded and complete university community, the planners recommend that provision be made for the integration of concession type facilities such as restaurants, book stores, cleaners, etc. related to housing and pedestrian streets.

Extramural Programs.

The Campus Development Office has provided information on the use of the campus in the evening, together with timetabling and enrolments for evening courses. Evening courses fall into two categories: credit/extension and non credit courses. Enrolment in the credit program this year is approximately 1,400. The usual attendance by each person is for two nights per week. Most lectures are scheduled for the Educational Building and the Henry Marshall Tory Building. The Physical Education building is used to its maximum capacity until midnight every evening.

Higher education today clearly is no longer regarded as a once-for-all experience ending with graduation. The Robbins Committee concluded that "as the pace of discovery quickens, it will become increasingly important for practitioners in many fields to take courses to bring them up to date in their subjects". Further, with the increase in leisure, shorter working


80,000 sq.ft.
20,000
0
100
400
PHYS ED BLDG
RESID TOWERS
LISTER
CAMPUS TOW RENTAL
RUTHERFORD
CORBETT

- 2000 sq.ft.of CLASSROOMS
- " CLASS LABS
- " FACULTY SPACE
- " LIBRARY & SUPP.
- " GENERAL USE
- " ADMINISTRATION
- " SERVICE
- HOUSING
- ——— DEPARTMENTAL SPLITS
- ━━━ SERIOUS DEPARTMENTAL SPLITS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

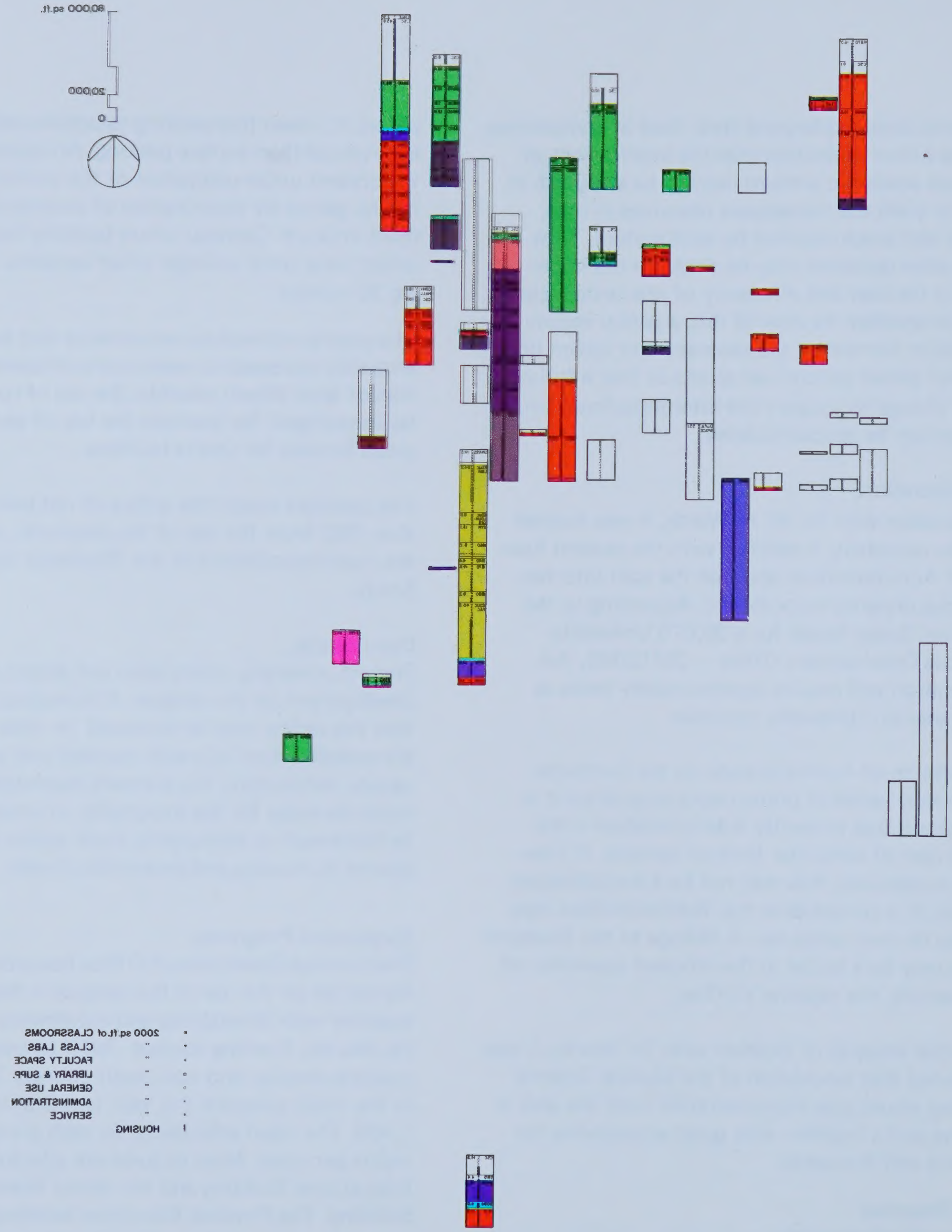
A J DIAMOND AND BARTON MYERS
PLANNERS

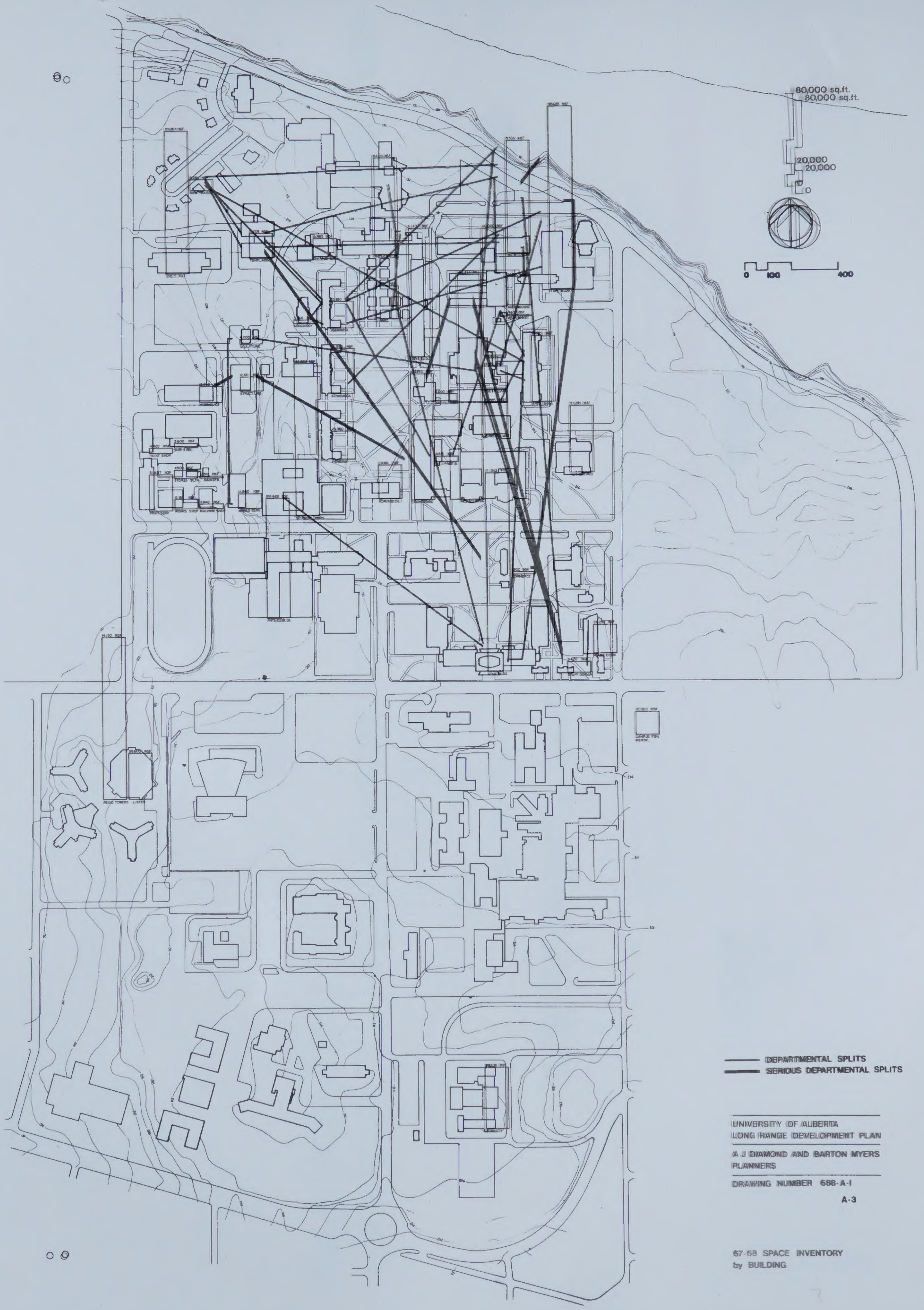
DRAWING NUMBER 688-A-I
A-2 A-3

67-68 SPACE INVENTORY
by BUILDING

vehicles.

. to accomplish this distribution without creating a


80,000 sq.ft.
20,000
0
2000 sq.ft.of CLASSROOMS
" CLASS LABS
" FACULTY SPACE
" LIBRARY & SUPP.
" GENERAL USE
" ADMINISTRATION
" SERVICE
HOUSING


80,000 sq.ft.
80,000 sq.ft.
20,000
20,000
0
0
0 100 400
DEPARTMENTAL SPLITS
SERIOUS DEPARTMENTAL SPLITS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

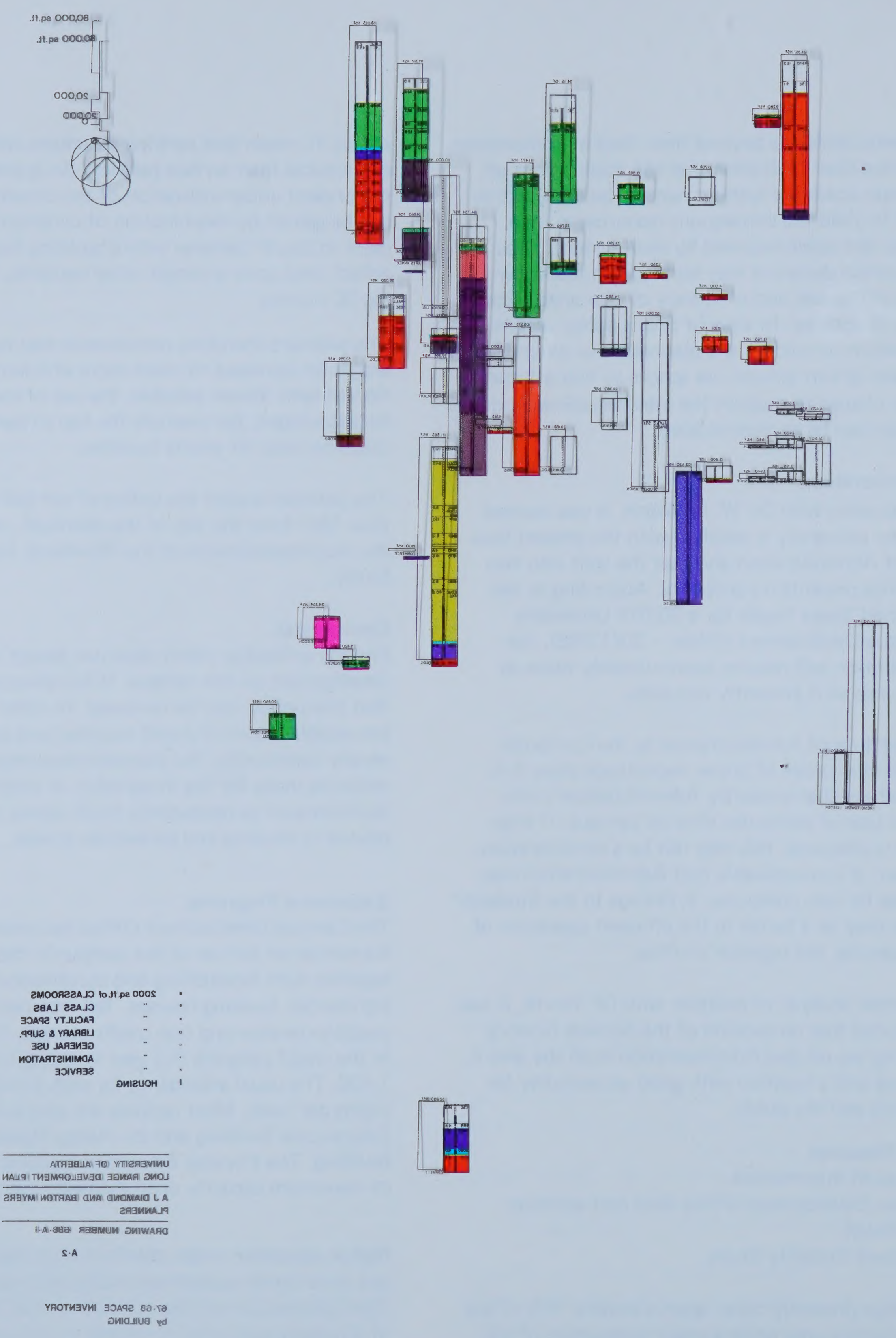
A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-A-I

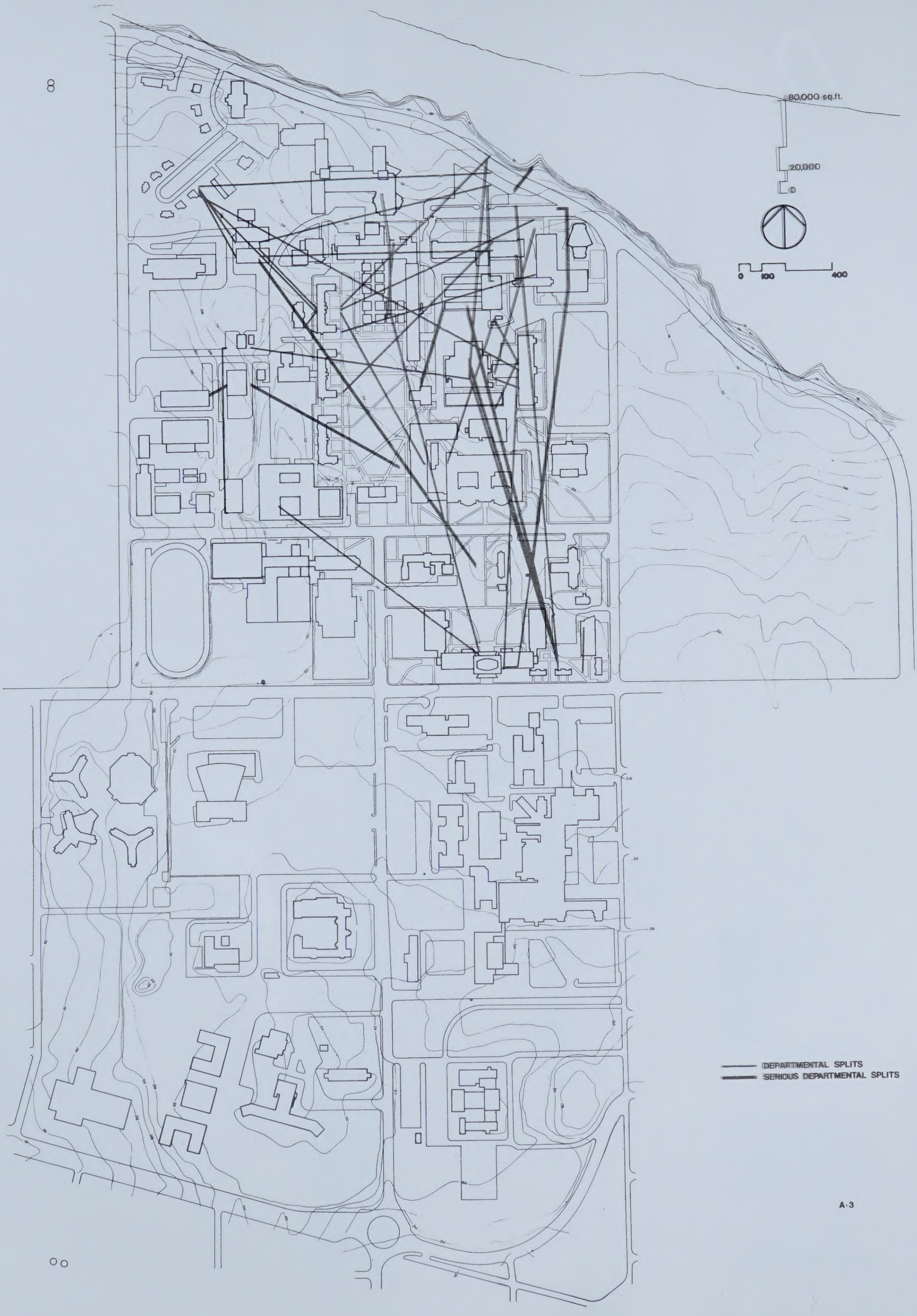
A-3

67-68 SPACE INVENTORY
by BUILDING

. to accomplish this distribution without creating a



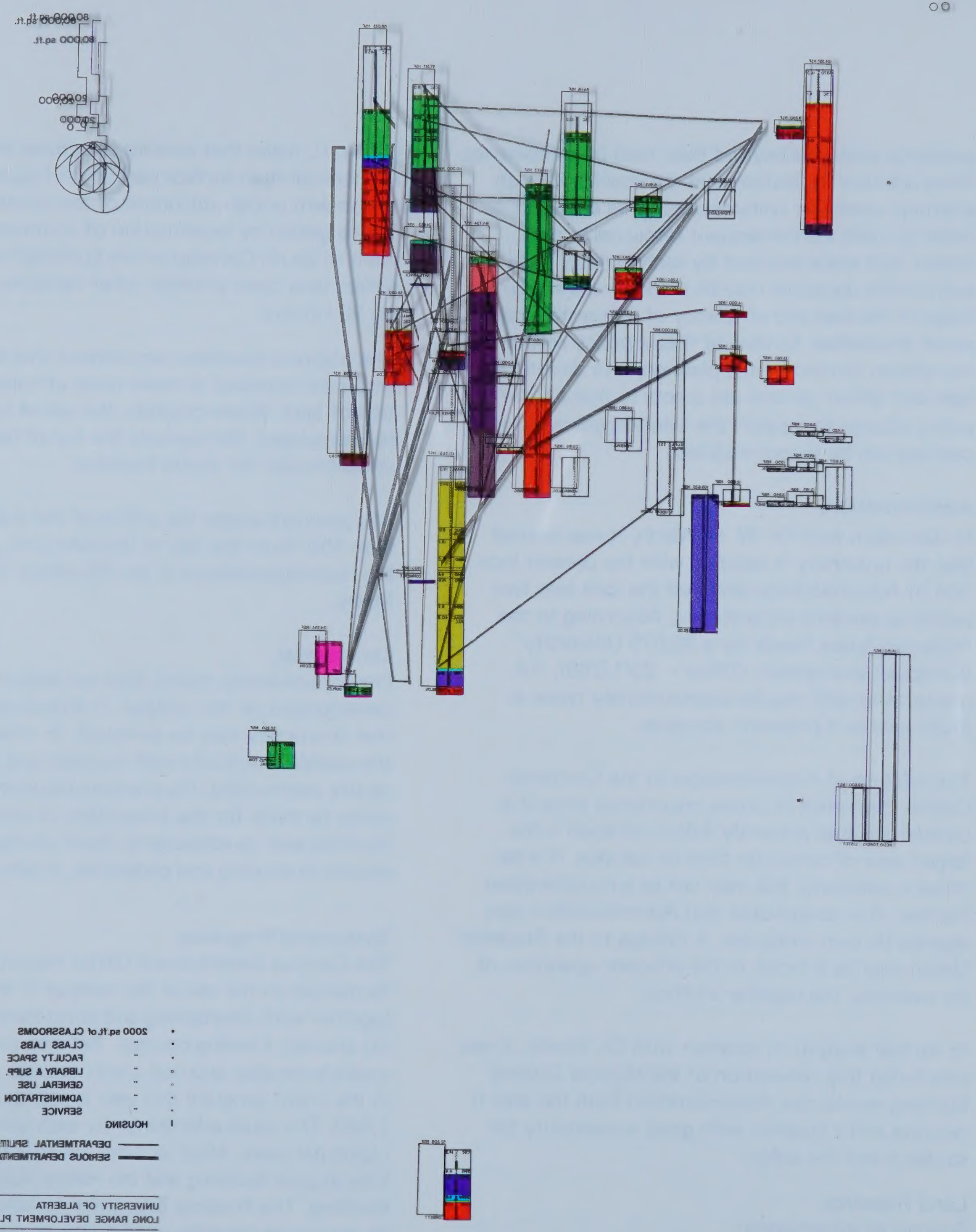
8


80,000 sq.ft.
20,000
0
0
100
400
DEPARTMENTAL SPLITS
SERIOUS DEPARTMENTAL SPLITS

A-3

vehicles.

. to accomplish this distribution without creating a



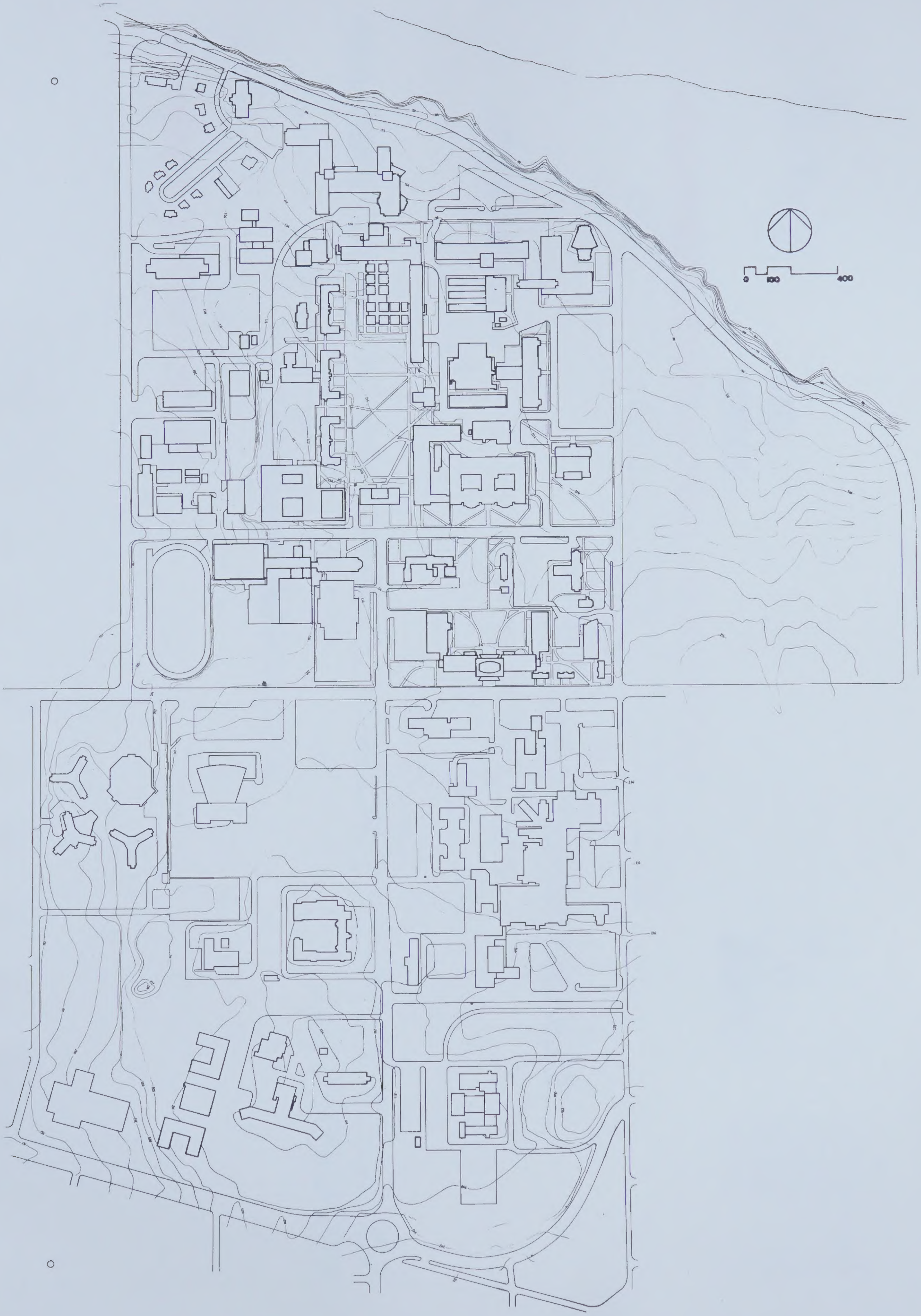
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A.J. DIAMOND AND BARTON MYERS
PLANNERS

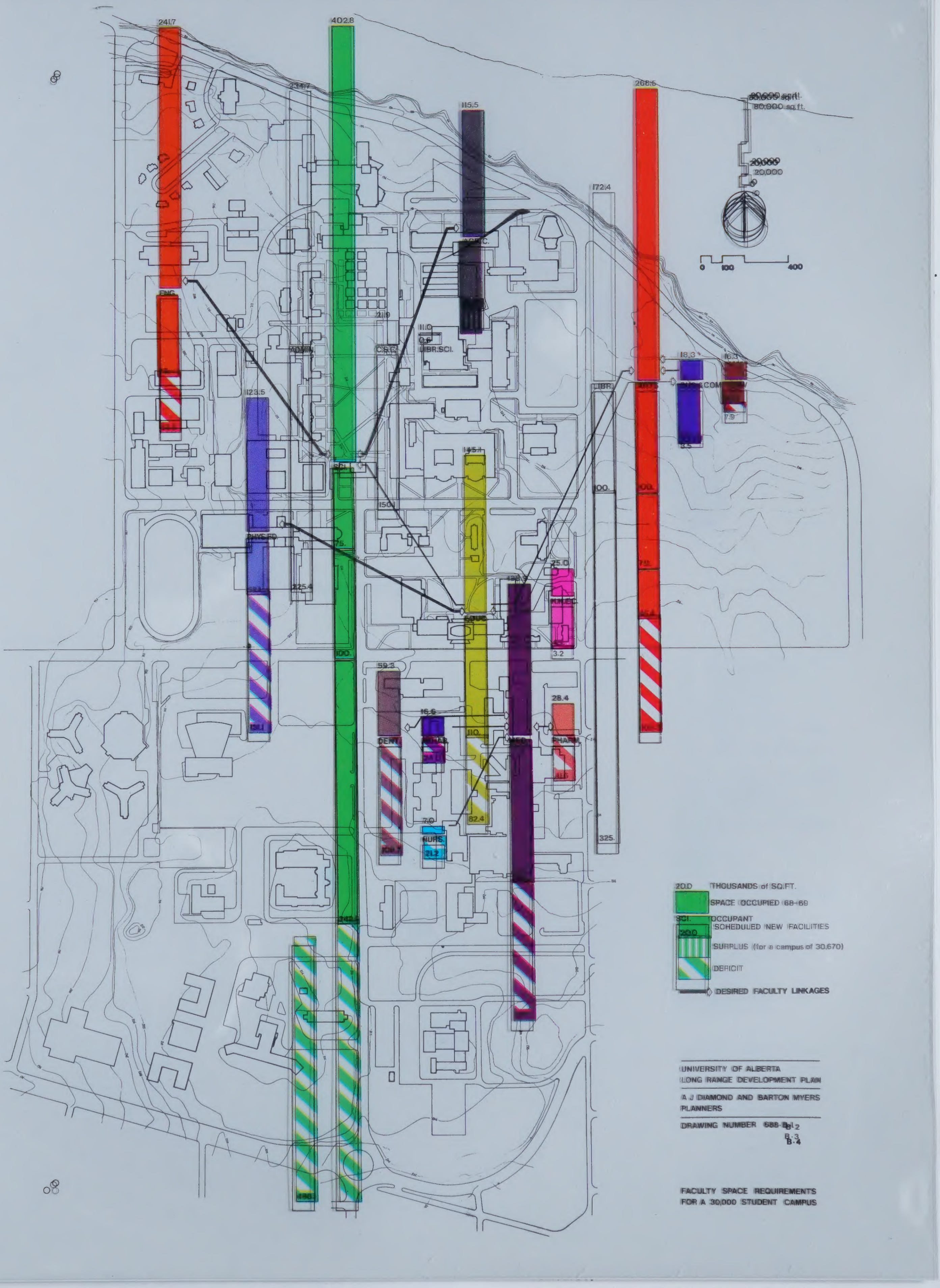
DRAWING NUMBER 688·A·1

A·2
A·3

67-68 SPACE INVENTORY
by BUILDING



. to accomplish this distribution without creating a


241.7
ENG.
402.8
SCI.
75.
100.
242.4
234.7
225.4
ADMIN.
115.5
AGRIC.
21.9
11.0
0.6
LIBR.SCI.
C.S.
150.
172.4
LIBR.
100.
325.
268.5
ARTS
100.
75.
18.3
BUS. & COM.
16.3
7.9
8.5
123.5
PHYS.ED.
151.
145.1
EDUC.
110.
82.4
138.6
MED.
25.0
H.EC.
3.2
28.4
PHARM.
59.3
DENT.
16.6
7.0
NURS.
80,000 sq.ft.
20,000
0
100
400
20.0 THOUSANDS of SQ.FT.
SPACE OCCUPIED 68-69
SCI. OCCUPANT
20.0 SCHEDULED NEW FACILITIES
SURPLUS (for a campus of 30,670)
DEFICIT
DESIRED FACULTY LINKAGES

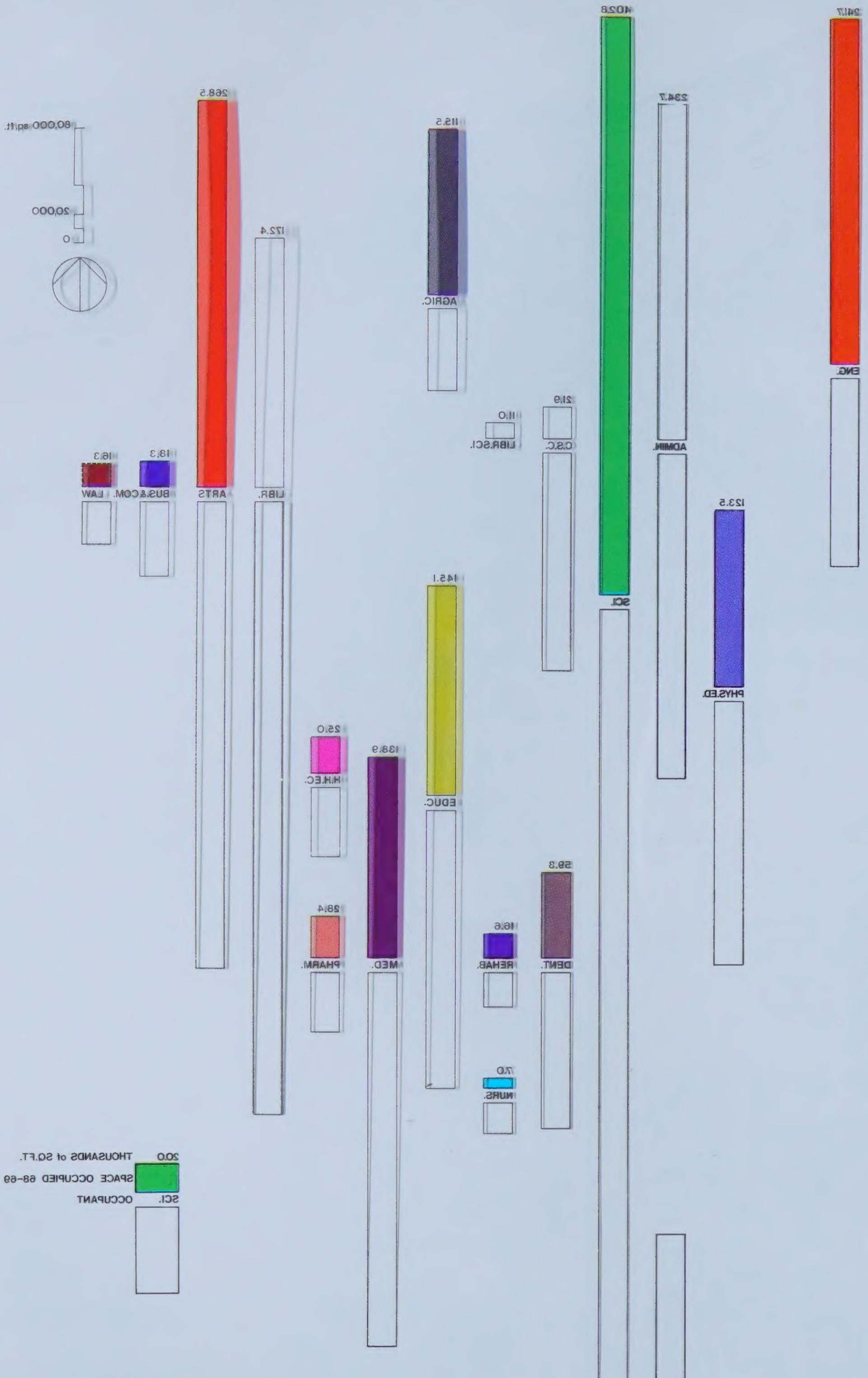
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-B.2
B.3
B.4

FACULTY SPACE REQUIREMENTS
FOR A 30,000 STUDENT CAMPUS

. to accomplish this distribution without creating a

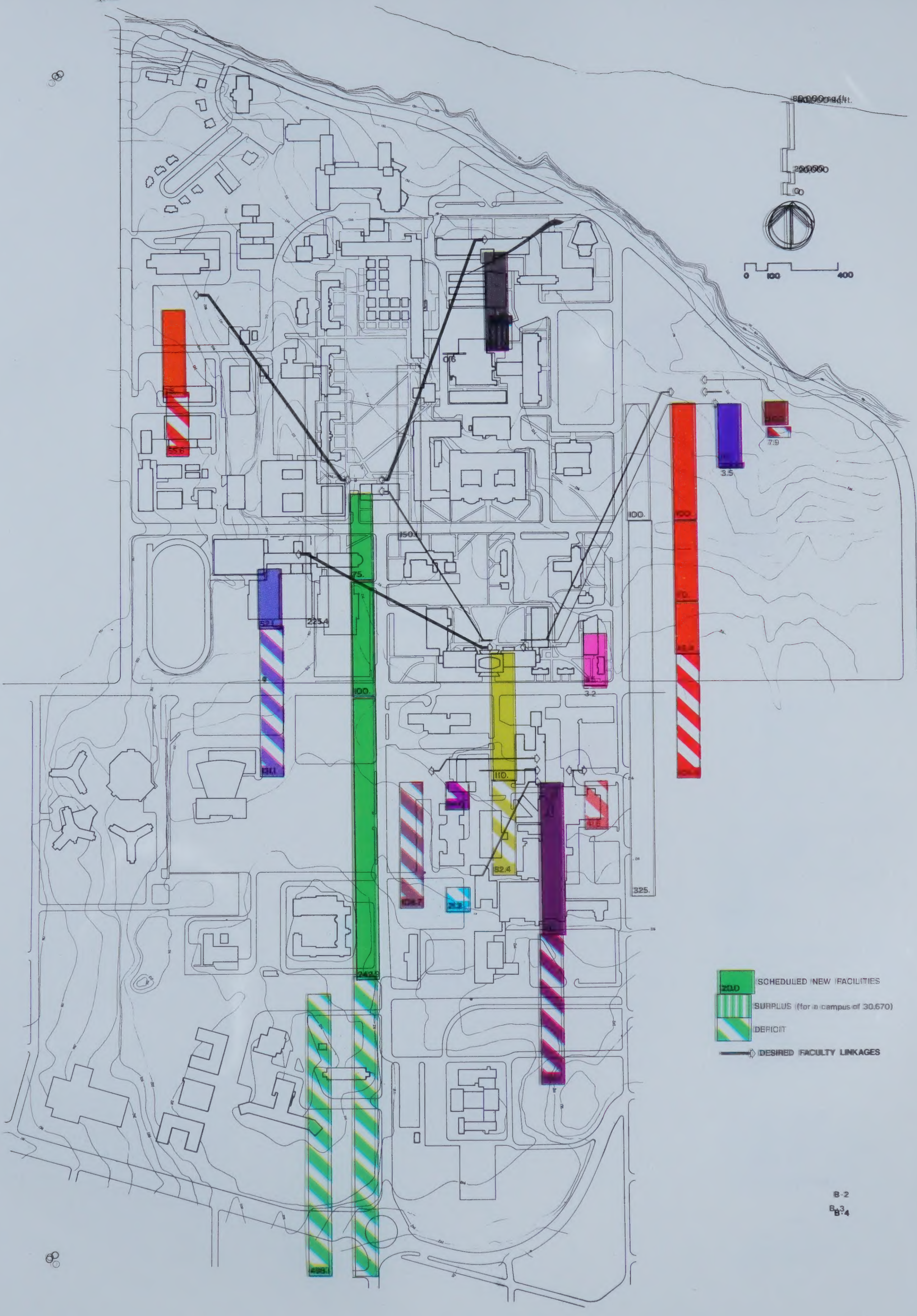


UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A.J. DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-B-1

FACULTY SPACE REQUIREMENTS
FOR A 30,000 STUDENT CAMPUS

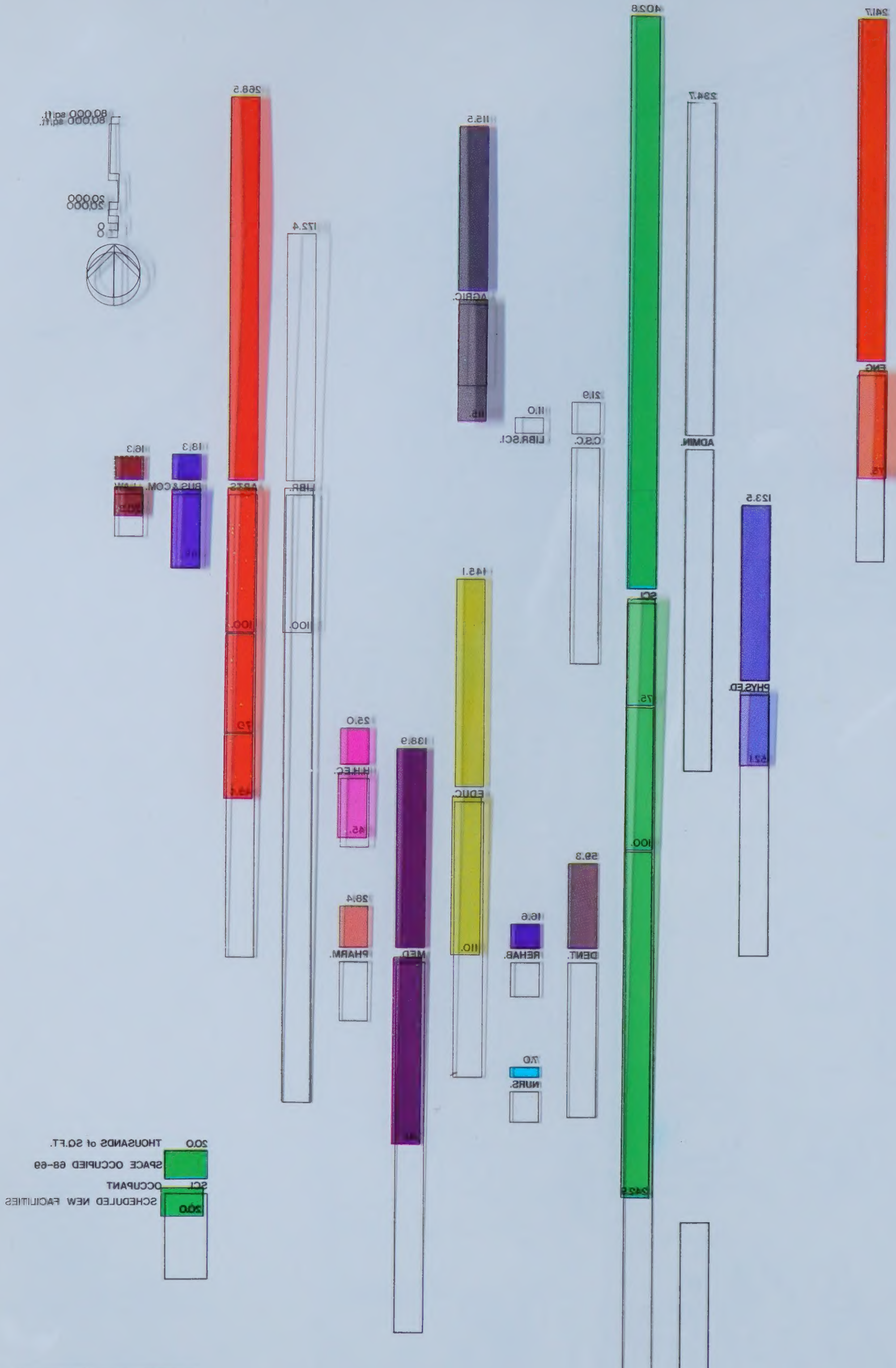


80,000 sq.ft.
20,000
0
0
100
400
15.
55.6
0.6
150.
100.
75.
52.1
225.4
131.1
100.
242.3
110.
82.4
104.7
21.3
3.2
100.
70.
325.
3.5
7.9
SCHEDULED NEW FACILITIES
20.0
SURPLUS (for a campus of 30.670)
DEFICIT
DESIRED FACULTY LINKAGES

B-2
B-3
B-4

vehicles:

. to accomplish this distribution without creating a

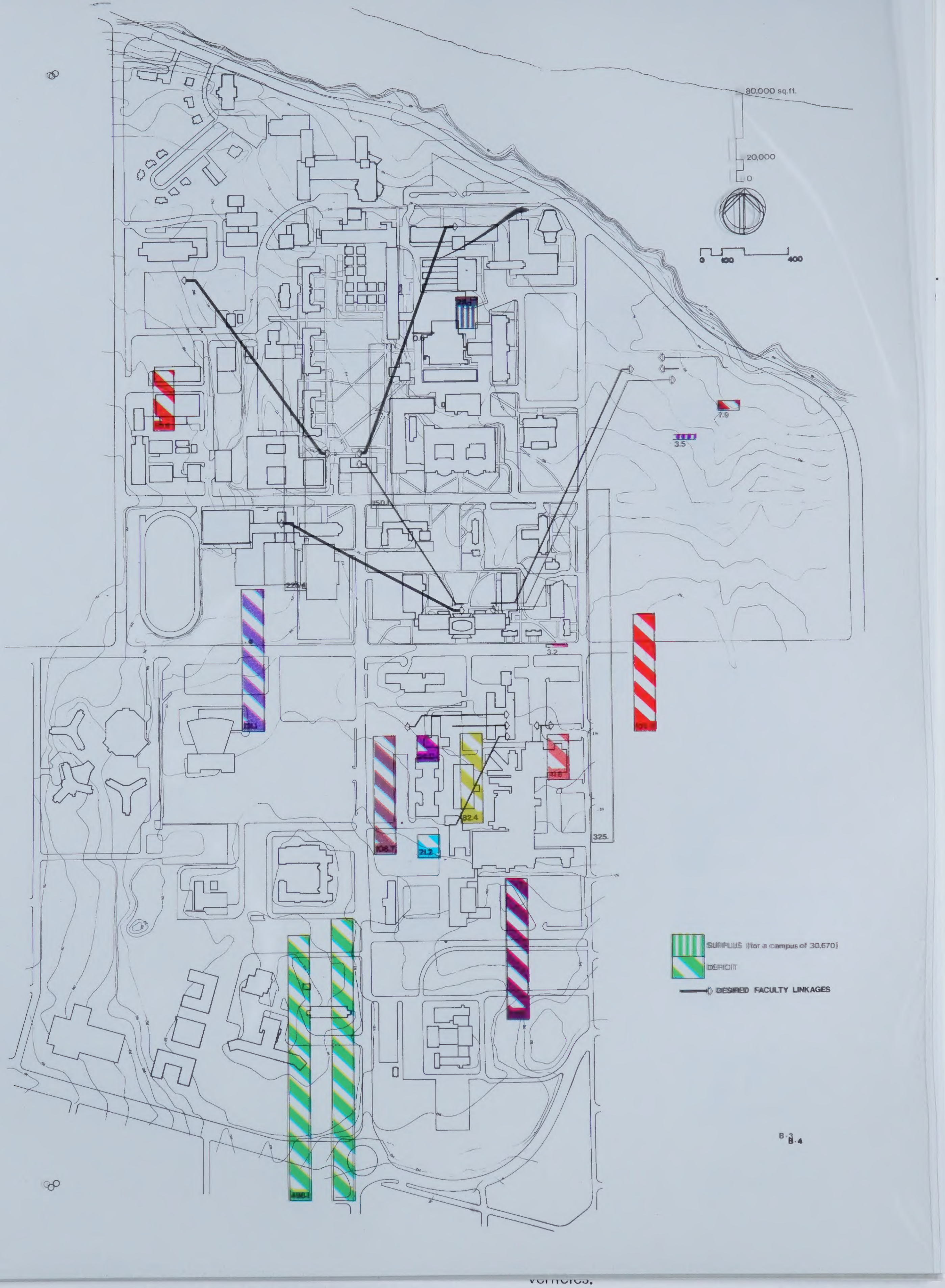


UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A.J. DIAMOND AND BARTON MYERS
PLANNERS

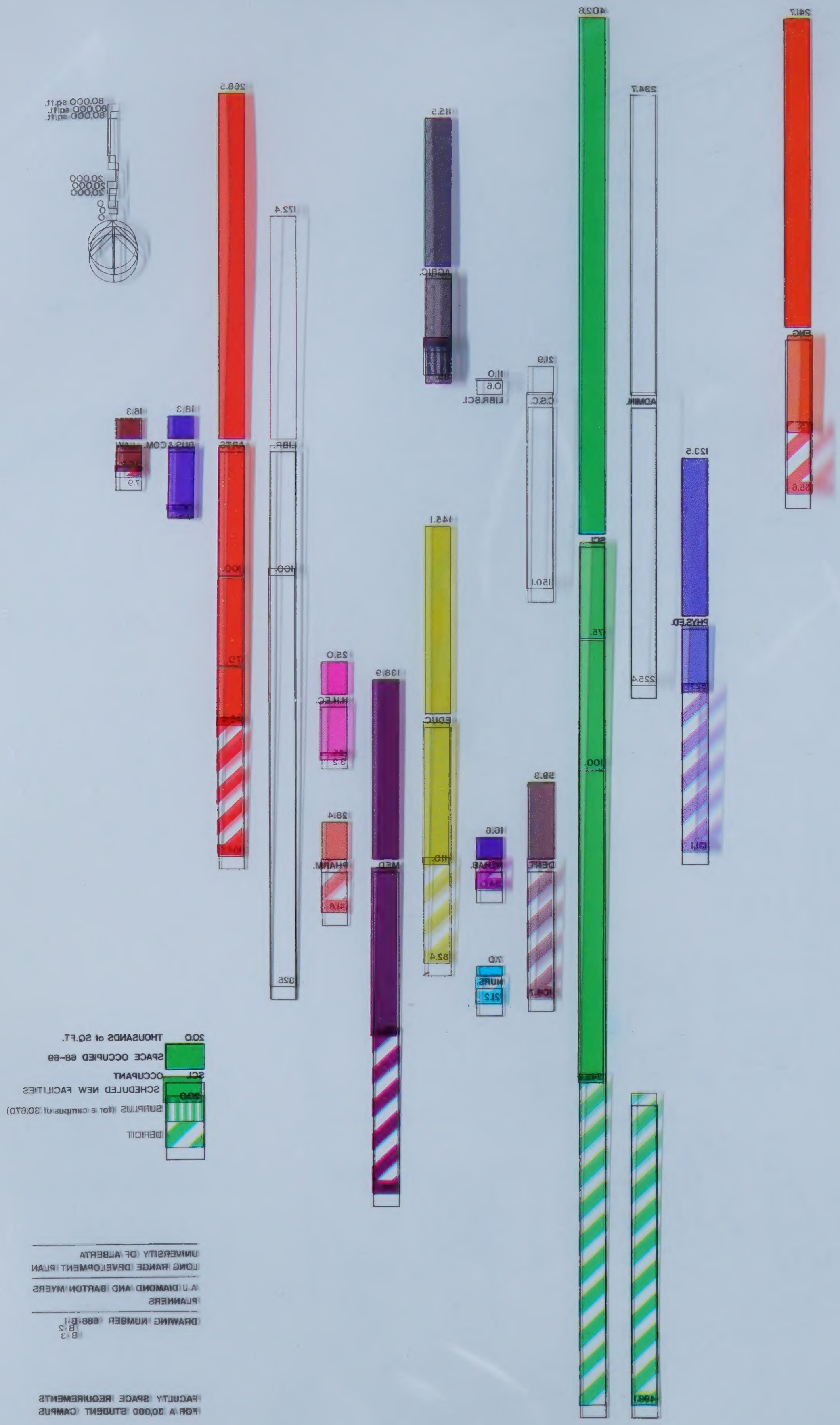
DRAWING NUMBER 1968 B-1
B-2

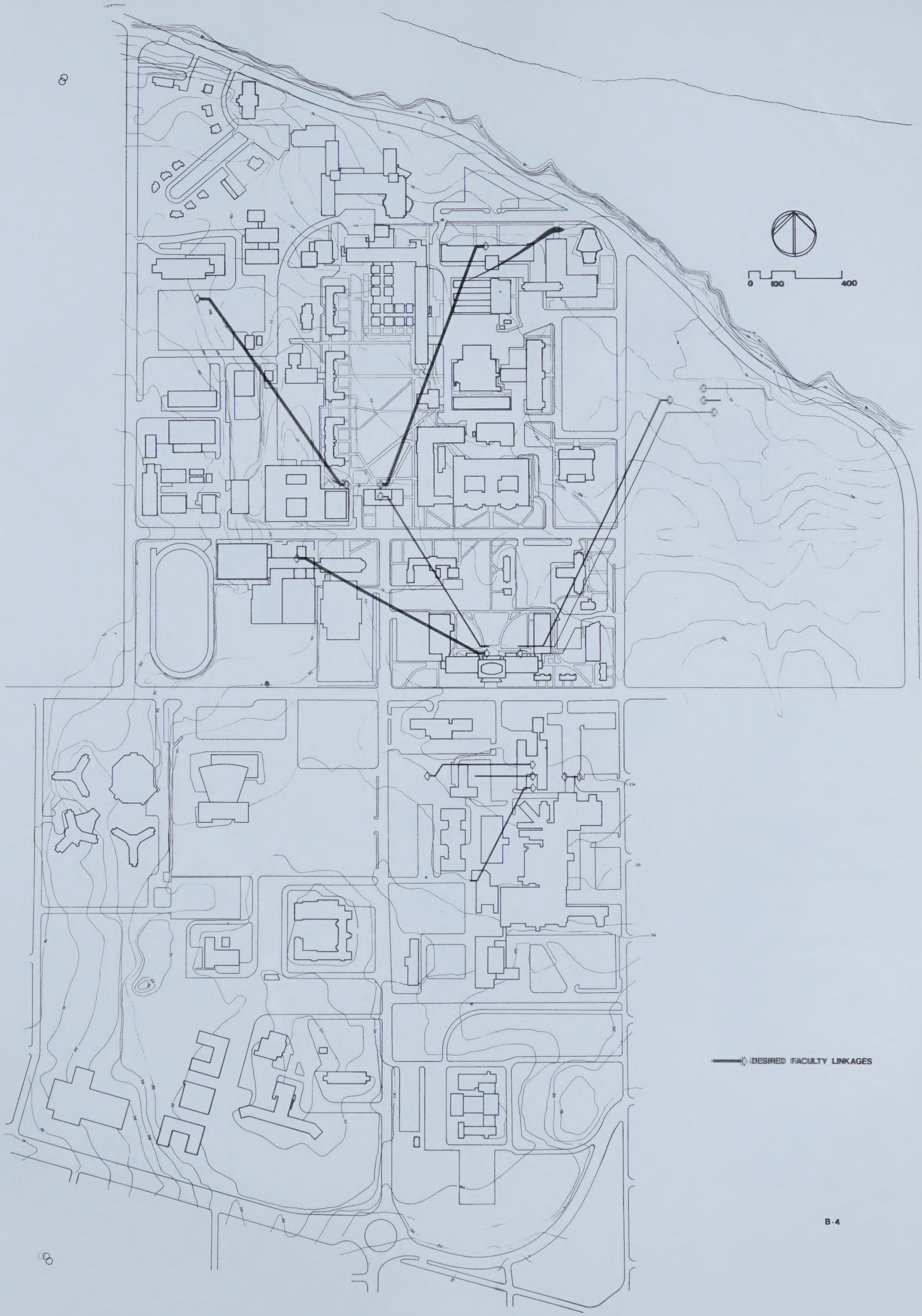
FACULTY SPACE REQUIREMENTS
FOR A 30,000 STUDENT CAMPUS


80,000 sq.ft.
20,000
0
0 100 400
0.6
7.9
3.5
150.1
3.2
108.7
21.2
82.4
325.
SURPLUS (for a campus of 30,670)
DEFICIT
DESIRED FACULTY LINKAGES
B-3
B-4

vehicles.

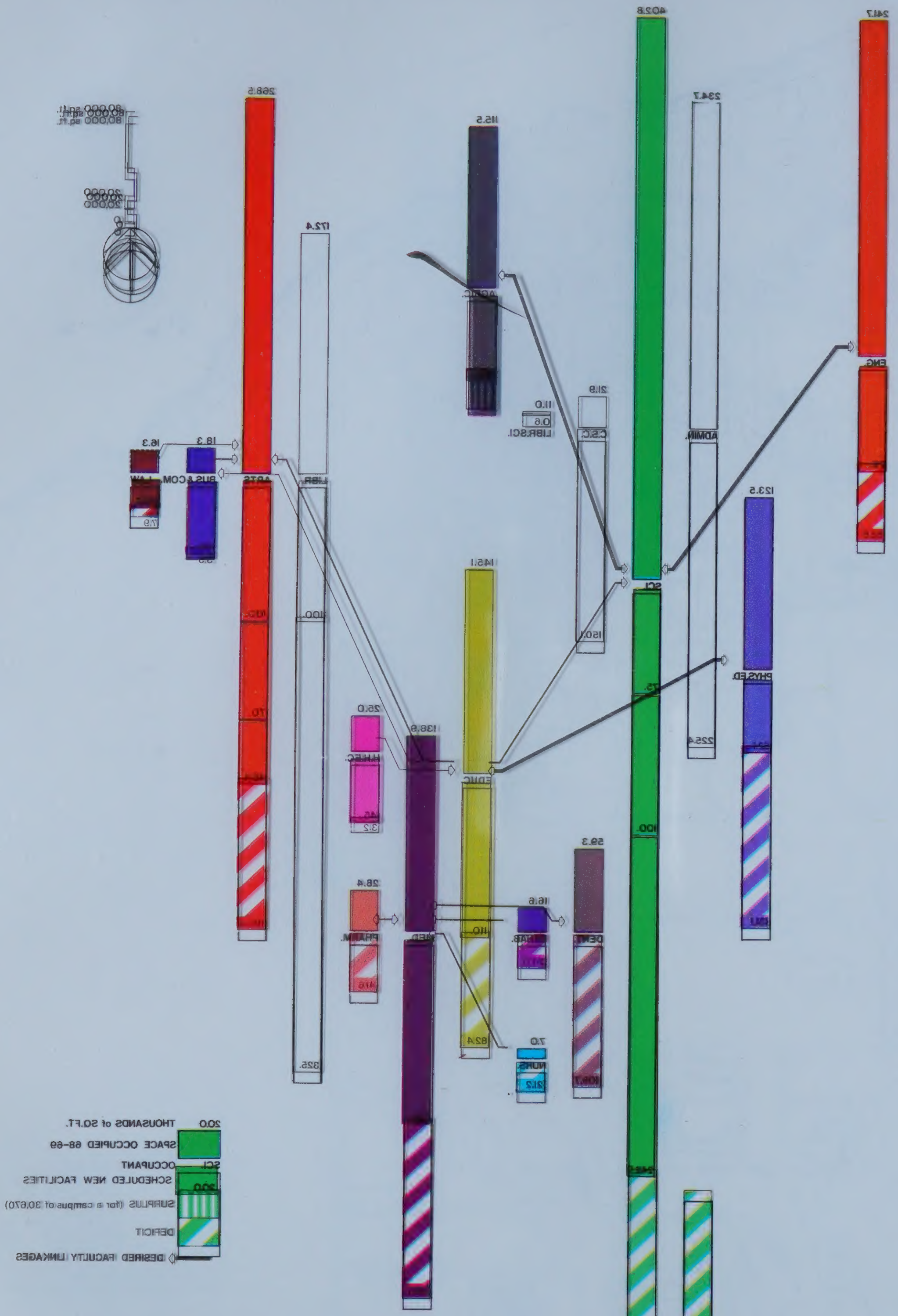
. to accomplish this distribution without creating a


FACULTY SPACE REQUIREMENTS FOR A 30,000 STUDENT CAMPUS
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A.J. DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688 B1
B2
B3
20.0 THOUSANDS of SQ.FT.
SPACE OCCUPIED 68-69
SCI. OCCUPANT
SCHEDULED NEW FACILITIES
SURPLUS (for a campus of 30,670)
DEFICIT
80,000 sq.ft.
20,000
LAW
16.3
7.9
BUS.&COM.
18.3
ARTS
268.5
100.
LIBR.
172.4
100.
1325.
H.H.EC.
25.0
5.2
PHARM.
28.4
41.6
MED.
138.9
AGRIC.
115.5
EDUC.
145.1
110.
82.4
LIBR.SCI.
11.0
0.6
REHAB.
16.6
NURS.
7.0
21.2
C.S.C.
21.9
150.1
DENT.
59.3
104.7
SCI.
402.8
75.
100.
ADMIN.
234.7
225.4
498.1
PHYS.ED.
123.5
131.1
ENG.
241.7
155.6


0
100
400
DESIRED FACULTY LINKAGES

B-4

to accomplish this distribution without creating a

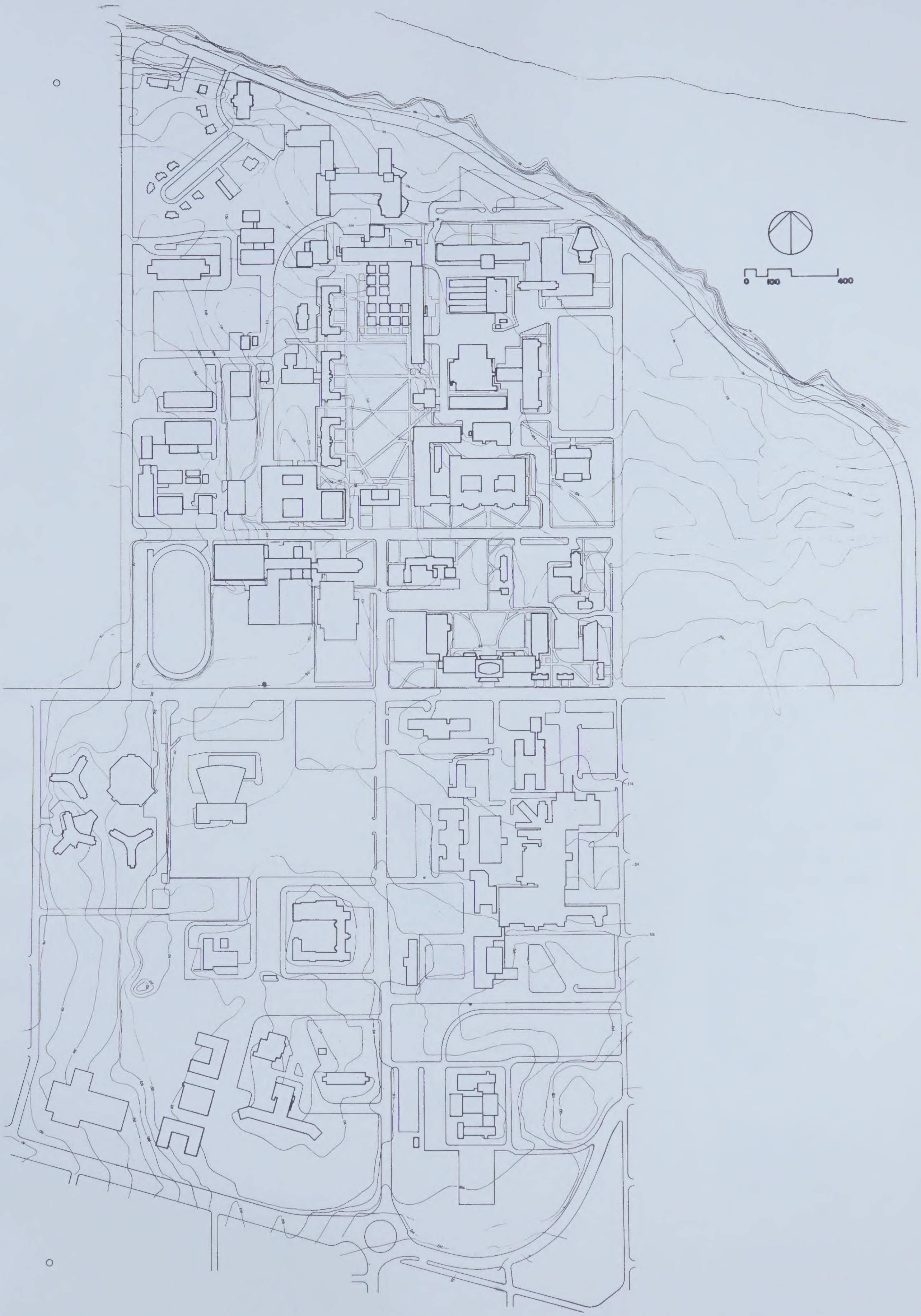


UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

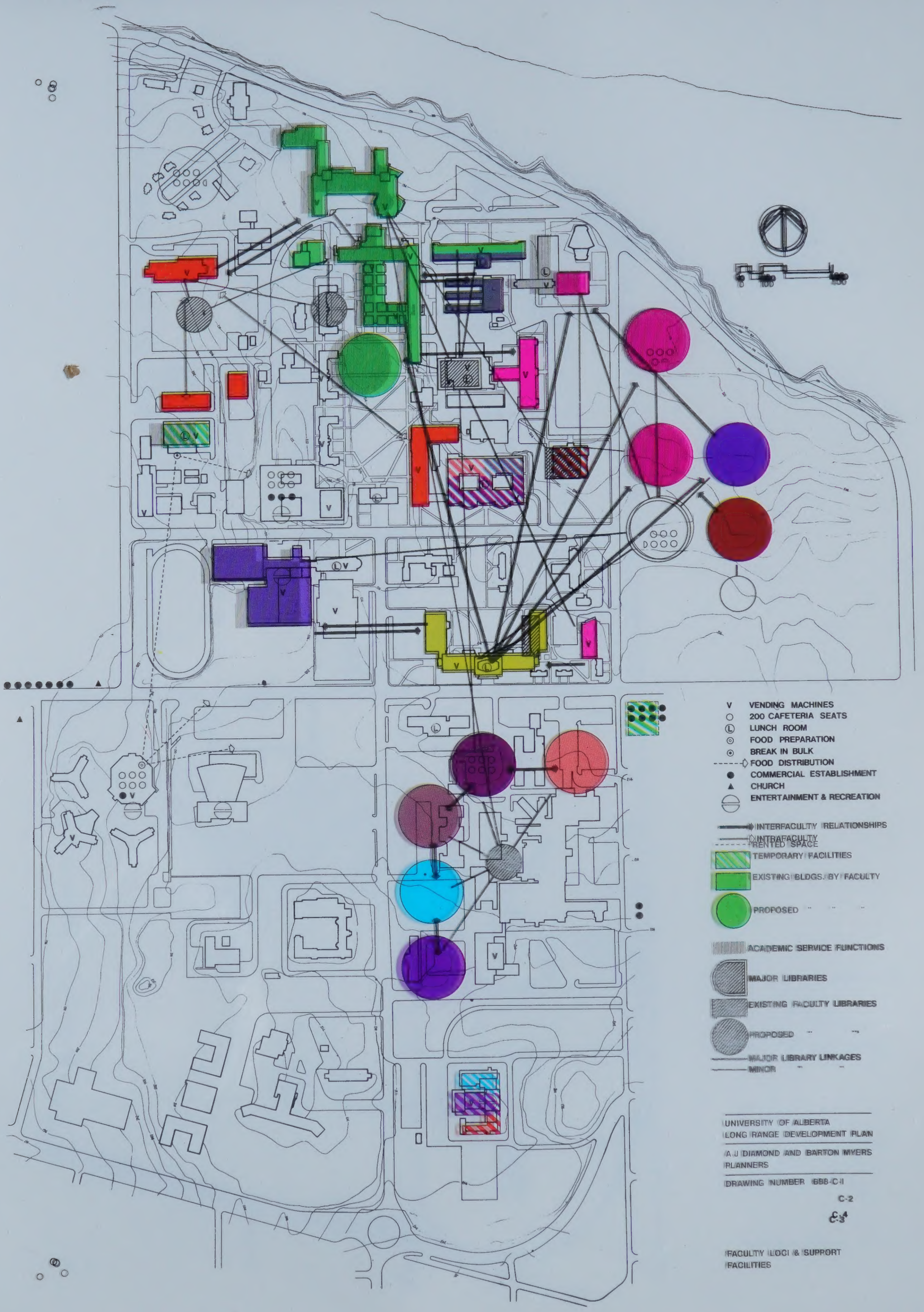
A.J. DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688 B-1
B-2
B-4

FACULTY SPACE REQUIREMENTS
FOR A 30,000 STUDENT CAMPUS

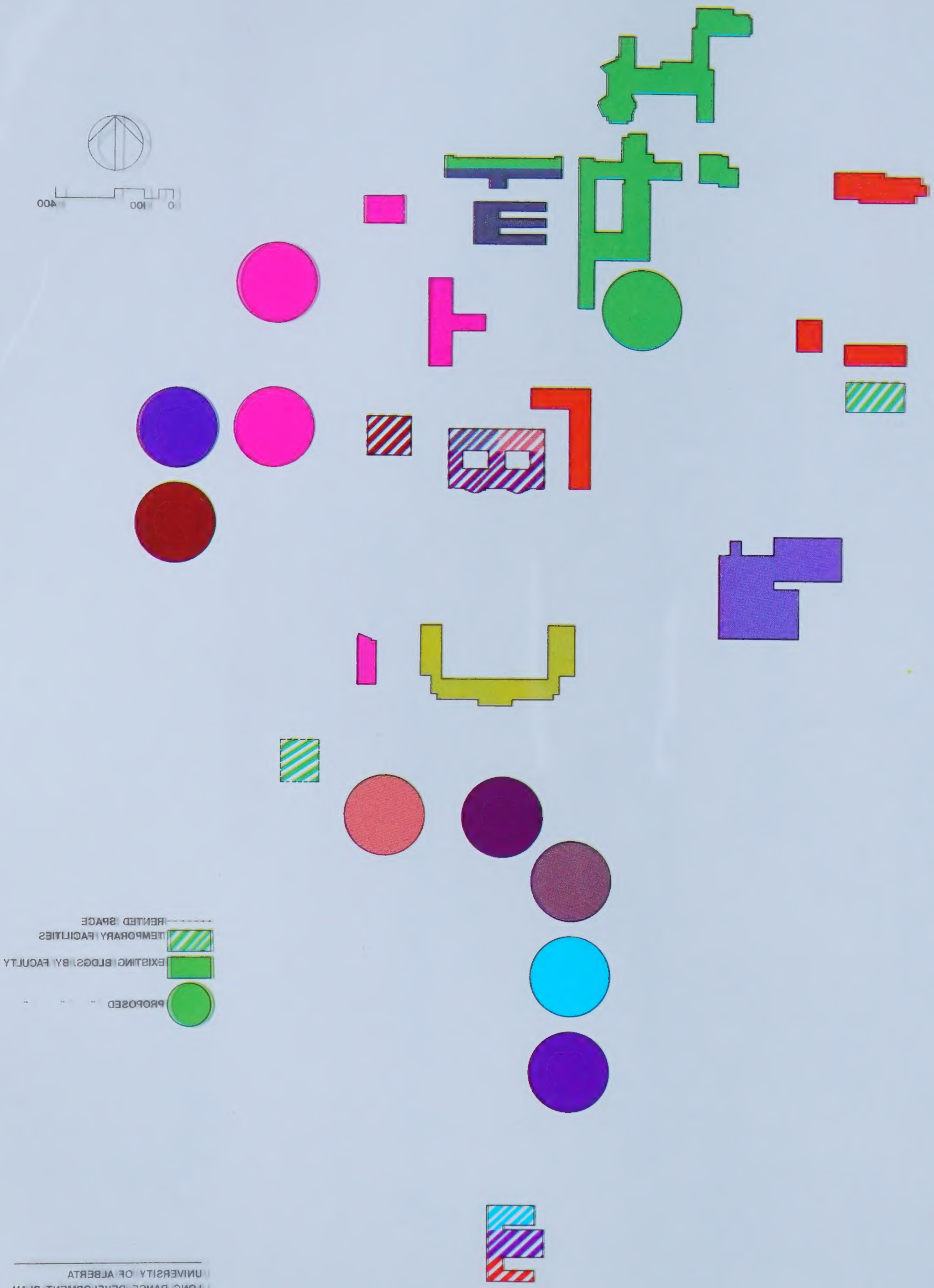


- to accomplish this distribution without creating a


V VENDING MACHINES
○ 200 CAFETERIA SEATS
Ⓛ LUNCH ROOM
◎ FOOD PREPARATION
⊙ BREAK IN BULK
FOOD DISTRIBUTION
● COMMERCIAL ESTABLISHMENT
▲ CHURCH
ENTERTAINMENT & RECREATION
INTERFACULTY RELATIONSHIPS
INTRAFACULTY
RENTED SPACE
TEMPORARY FACILITIES
EXISTING BLDGS. BY FACULTY
PROPOSED " "
ACADEMIC SERVICE FUNCTIONS
MAJOR LIBRARIES
EXISTING FACULTY LIBRARIES
PROPOSED " "
MAJOR LIBRARY LINKAGES
MINOR " "
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A.J DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688-C-I
C-2
C-3
C-4
FACULTY LOCI & SUPPORT
FACILITIES
0
100
400

vehicles.

. to accomplish this distribution without creating a

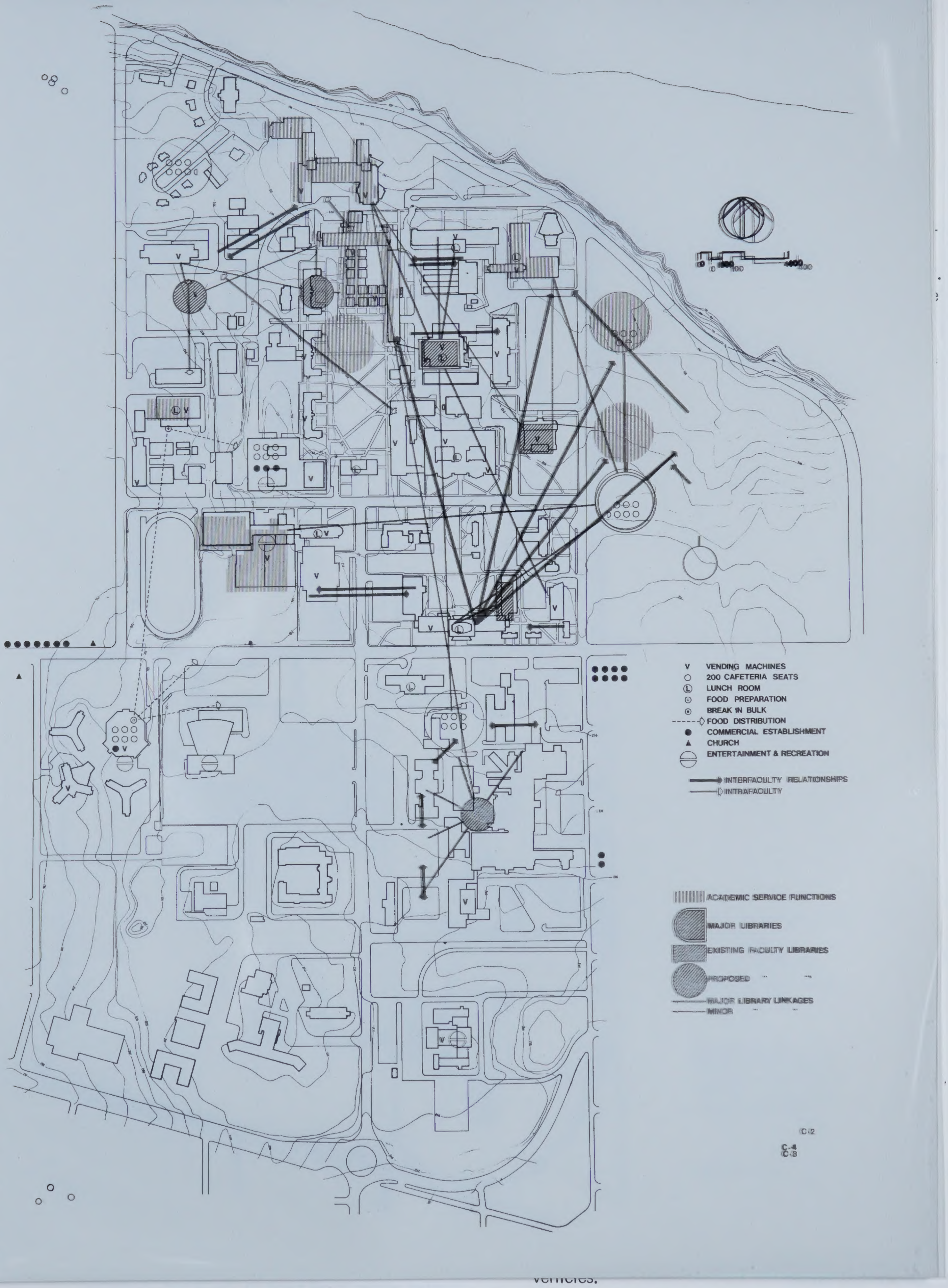

0
100
400
RENTED SPACE
TEMPORARY FACILITIES
EXISTING BLDGS. BY FACULTY
PROPOSED " " "

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A.J. DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·C·1

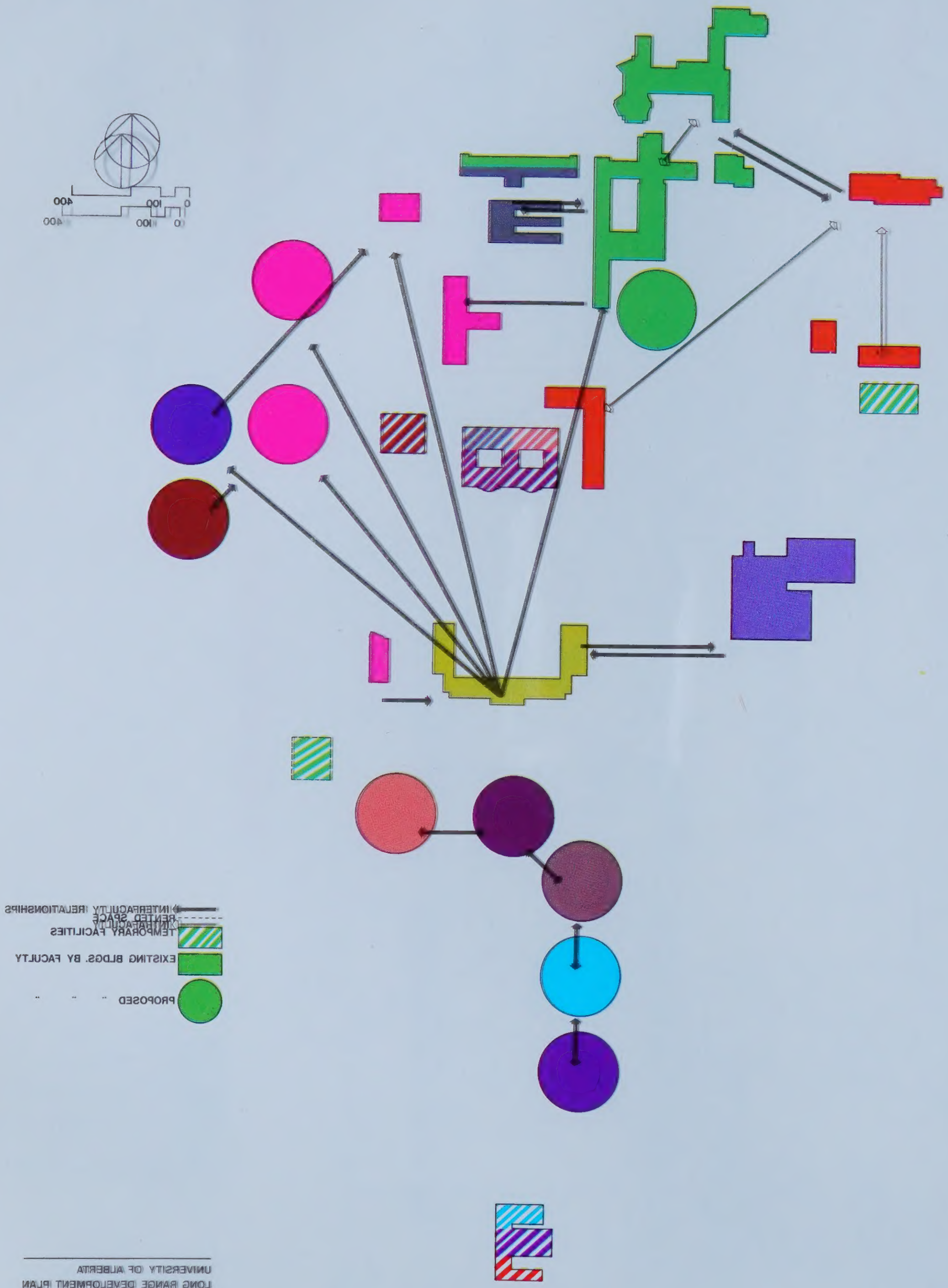
FACULTY LOC'N & SUPPORT
FACILITIES



0 100 400
V VENDING MACHINES
○ 200 CAFETERIA SEATS
Ⓛ LUNCH ROOM
◎ FOOD PREPARATION
⊙ BREAK IN BULK
FOOD DISTRIBUTION
● COMMERCIAL ESTABLISHMENT
▲ CHURCH
ENTERTAINMENT & RECREATION
INTERFACULTY RELATIONSHIPS
INTRAFACULTY
ACADEMIC SERVICE FUNCTIONS
MAJOR LIBRARIES
EXISTING FACULTY LIBRARIES
PROPOSED " "
MAJOR LIBRARY LINKAGES
MINOR " "
C-2
C-4
C-3

vehicles.

- to accomplish this distribution without creating a


0 100 400
INTERFACULTY RELATIONSHIPS
RENTED SPACE
INTRAFACULTY
TEMPORARY FACILITIES
EXISTING BLDGS. BY FACULTY
PROPOSED " "

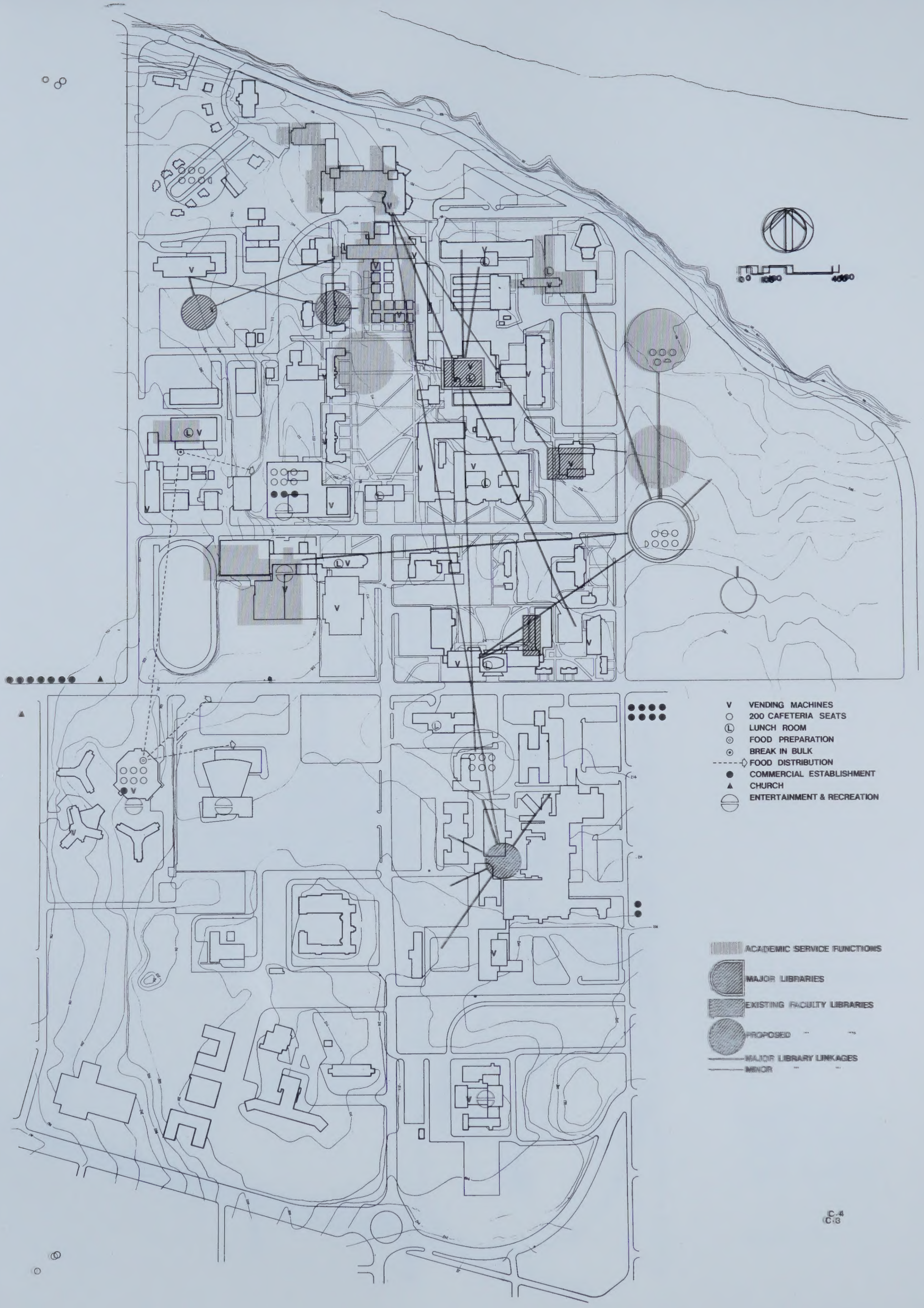
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A. J. DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-C-1

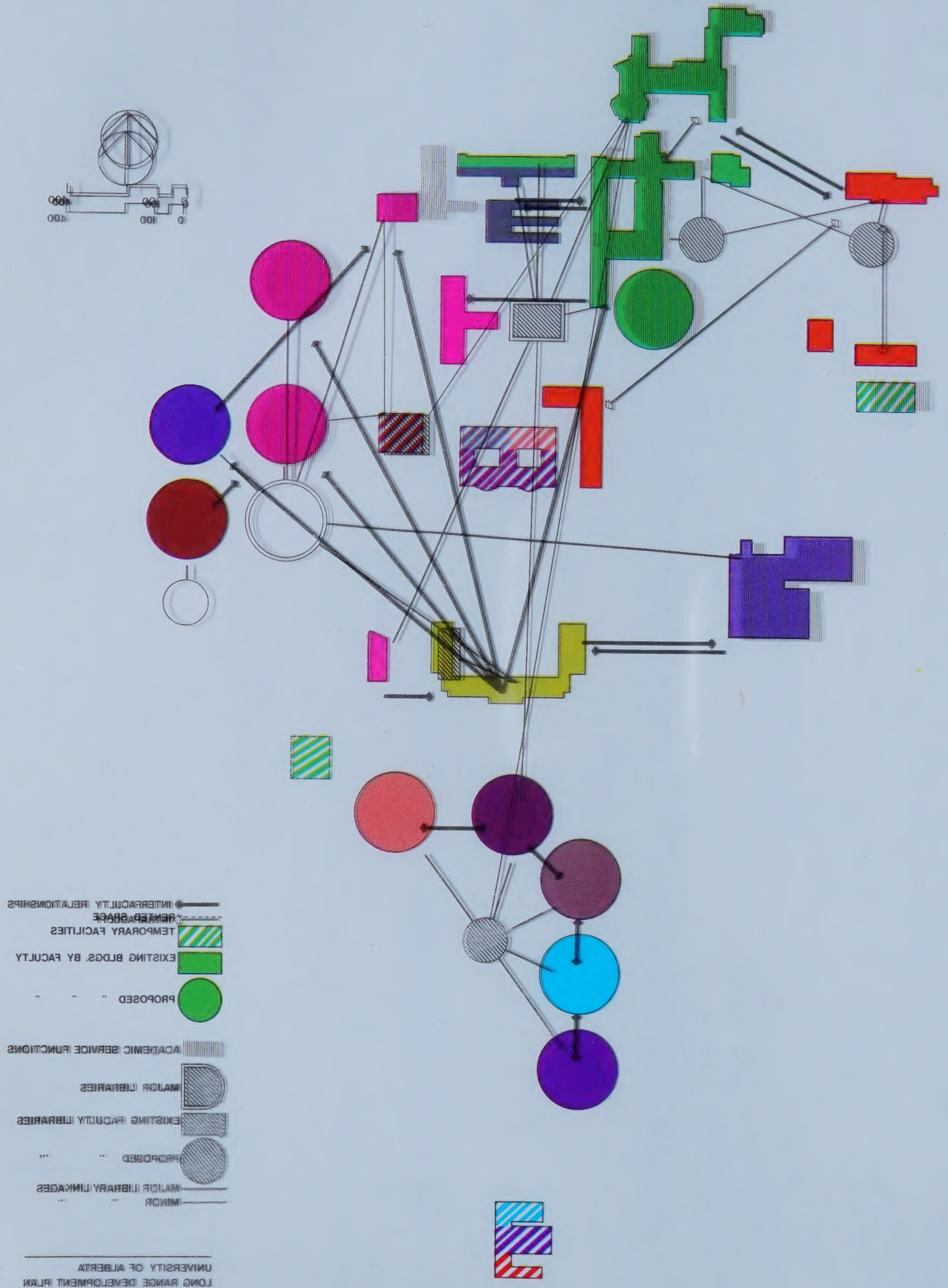
C-2

FACULTY LOCI & SUPPORT
FACILITIES


0 100 400
V VENDING MACHINES
○ 200 CAFETERIA SEATS
Ⓛ LUNCH ROOM
◎ FOOD PREPARATION
⊙ BREAK IN BULK
FOOD DISTRIBUTION
● COMMERCIAL ESTABLISHMENT
▲ CHURCH
ENTERTAINMENT & RECREATION
ACADEMIC SERVICE FUNCTIONS
MAJOR LIBRARIES
EXISTING FACULTY LIBRARIES
PROPOSED " "
MAJOR LIBRARY LINKAGES
MINOR " "
C-4
C-3

vehicles.

. to accomplish this distribution without creating a


0
100
400
INTERFACULTY RELATIONSHIPS
INTRAFACULTY
RENTED SPACE
TEMPORARY FACILITIES
EXISTING BLDGS. BY FACULTY
PROPOSED " " "
ACADEMIC SERVICE FUNCTIONS
MAJOR LIBRARIES
EXISTING FACULTY LIBRARIES
PROPOSED " "
MAJOR LIBRARY LINKAGES
MINOR " "

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

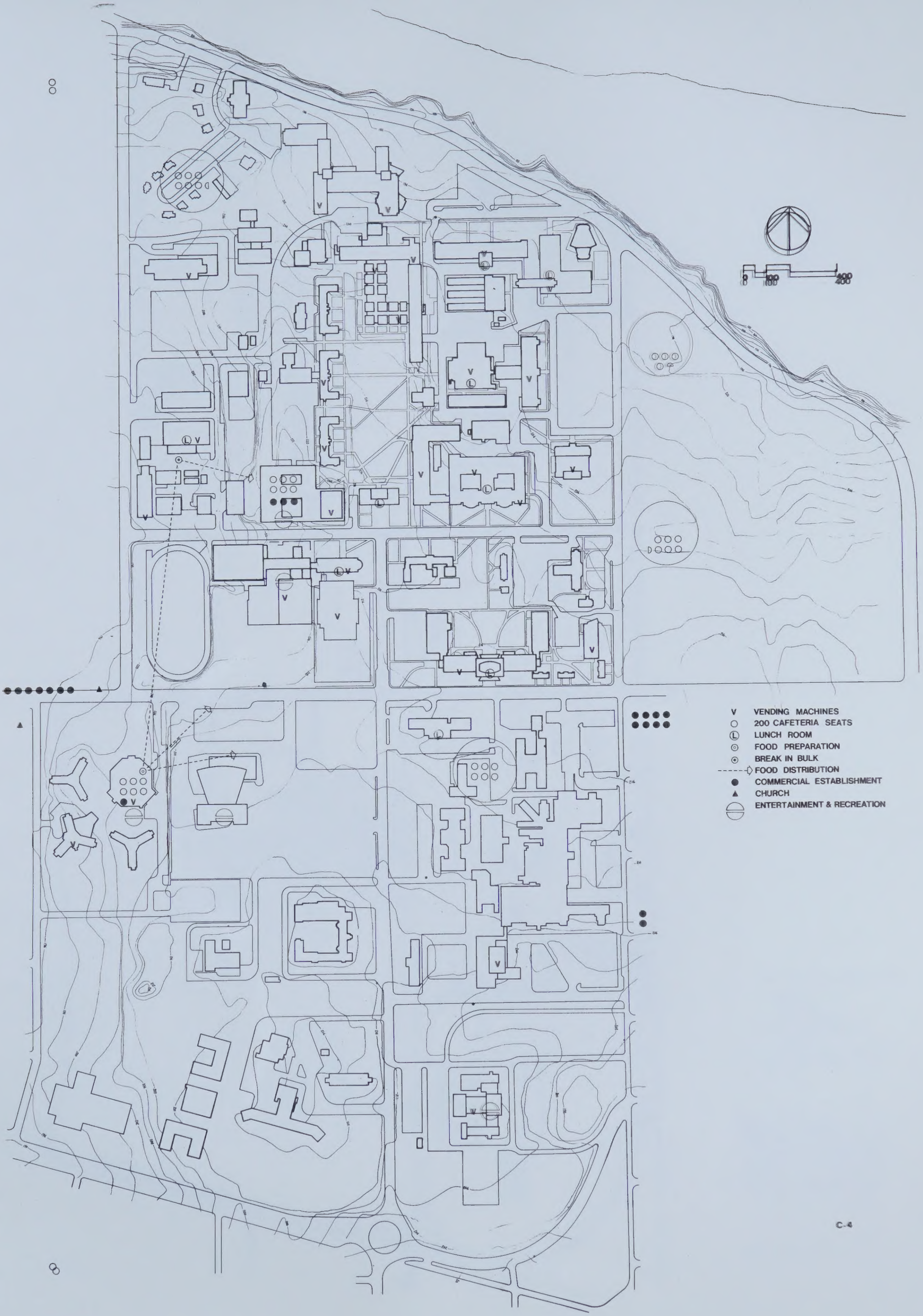
A.J. DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-C-1

C-2

C-3

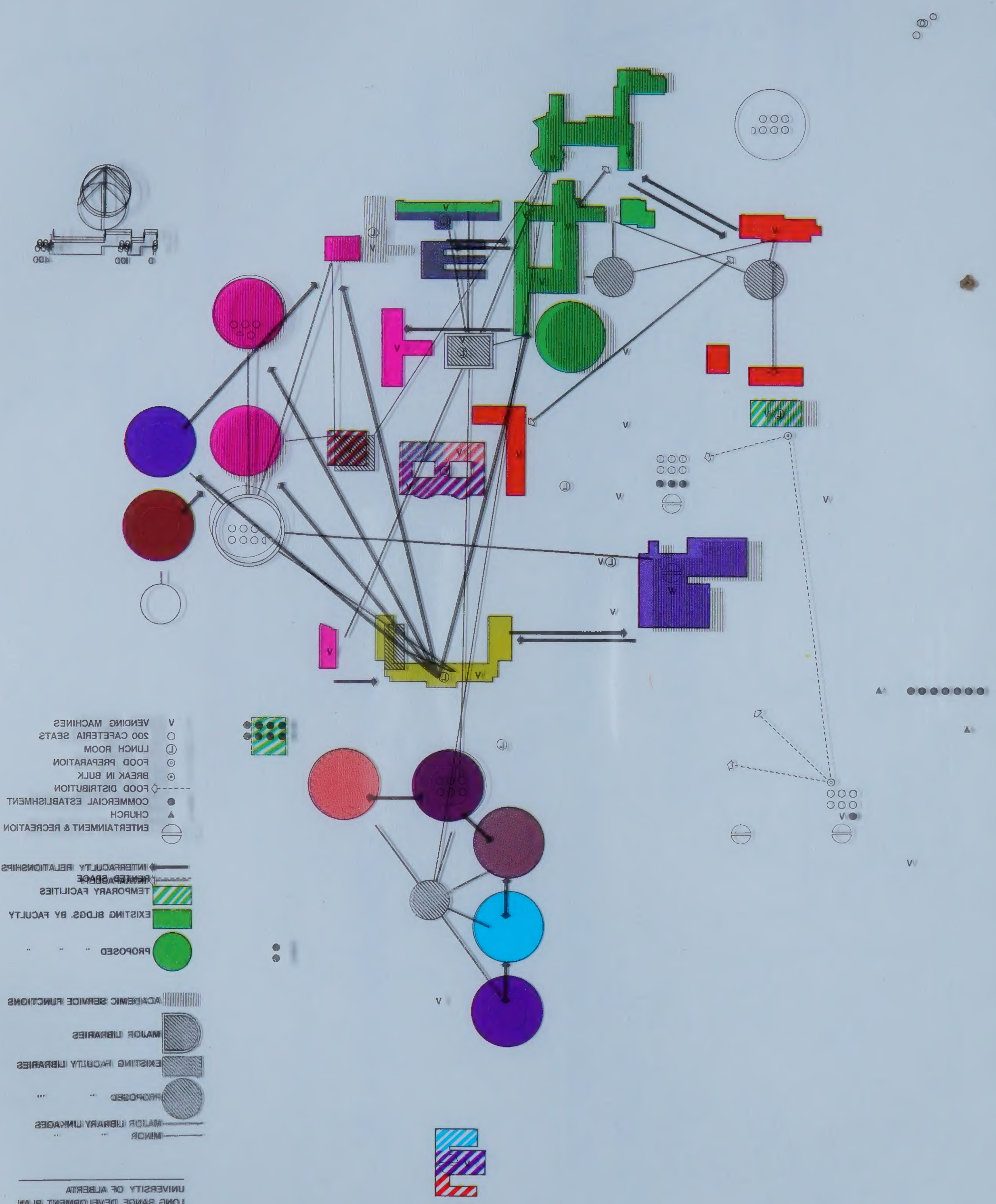
FACULTY LOCI & SUPPORT
FACILITIES


0 100 400
V VENDING MACHINES
○ 200 CAFETERIA SEATS
Ⓛ LUNCH ROOM
◎ FOOD PREPARATION
⊙ BREAK IN BULK
----▷ FOOD DISTRIBUTION
● COMMERCIAL ESTABLISHMENT
▲ CHURCH
ENTERTAINMENT & RECREATION

C-4

vehicles.

. to accomplish this distribution without creating a


0
100
400
V VENDING MACHINES
○ 200 CAFETERIA SEATS
LUNCH ROOM
FOOD PREPARATION
BREAK IN BULK
FOOD DISTRIBUTION
● COMMERCIAL ESTABLISHMENT
▲ CHURCH
ENTERTAINMENT & RECREATION
INTERFACULTY RELATIONSHIPS
RENTED SPACE
TEMPORARY
TEMPORARY FACILITIES
EXISTING BLDGS. BY FACULTY
PROPOSED " "
ACADEMIC SERVICE FUNCTIONS
MAJOR LIBRARIES
EXISTING FACULTY LIBRARIES
PROPOSED " "
MAJOR LIBRARY LINKAGES
MINOR " "
V

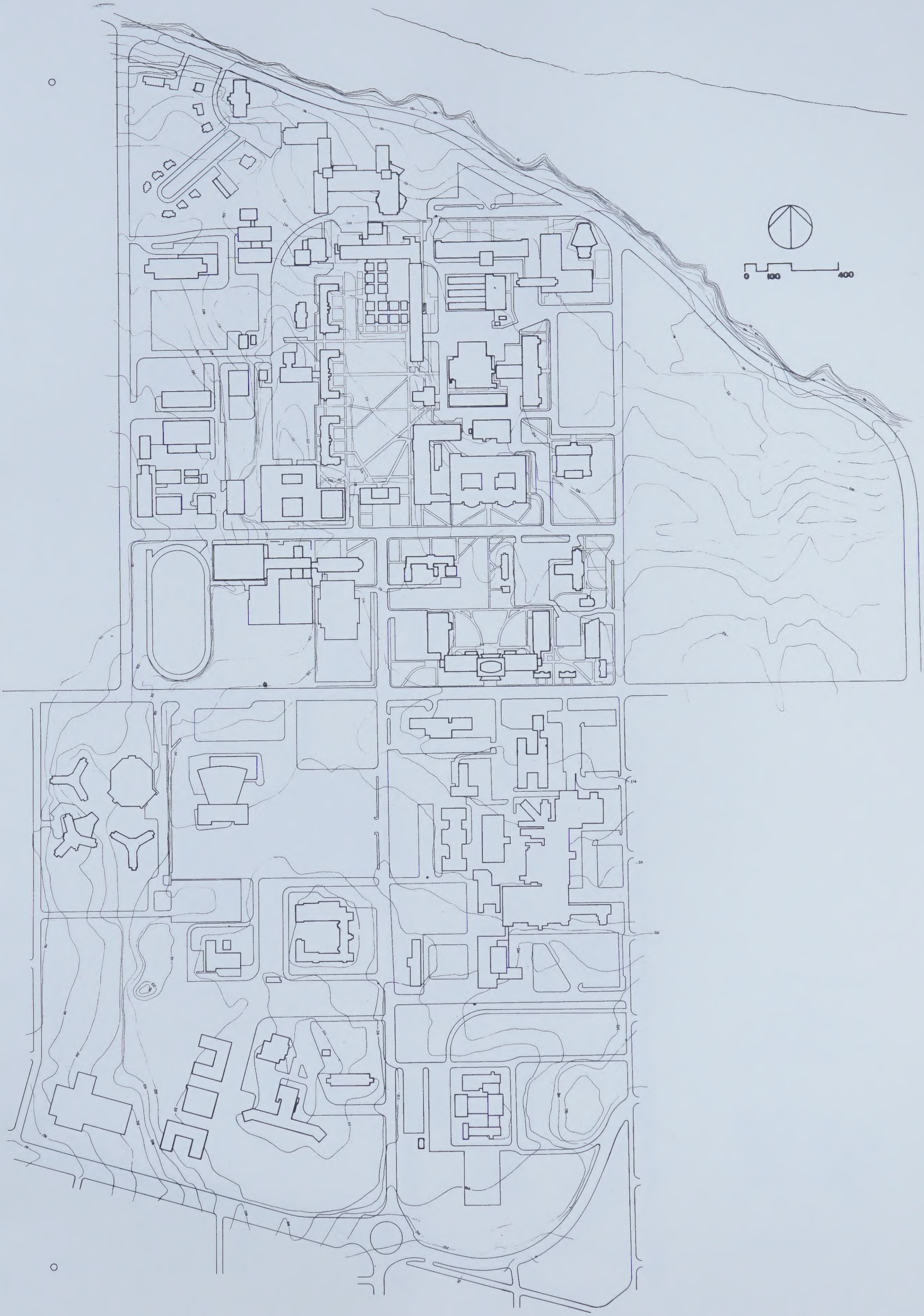
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-C-1

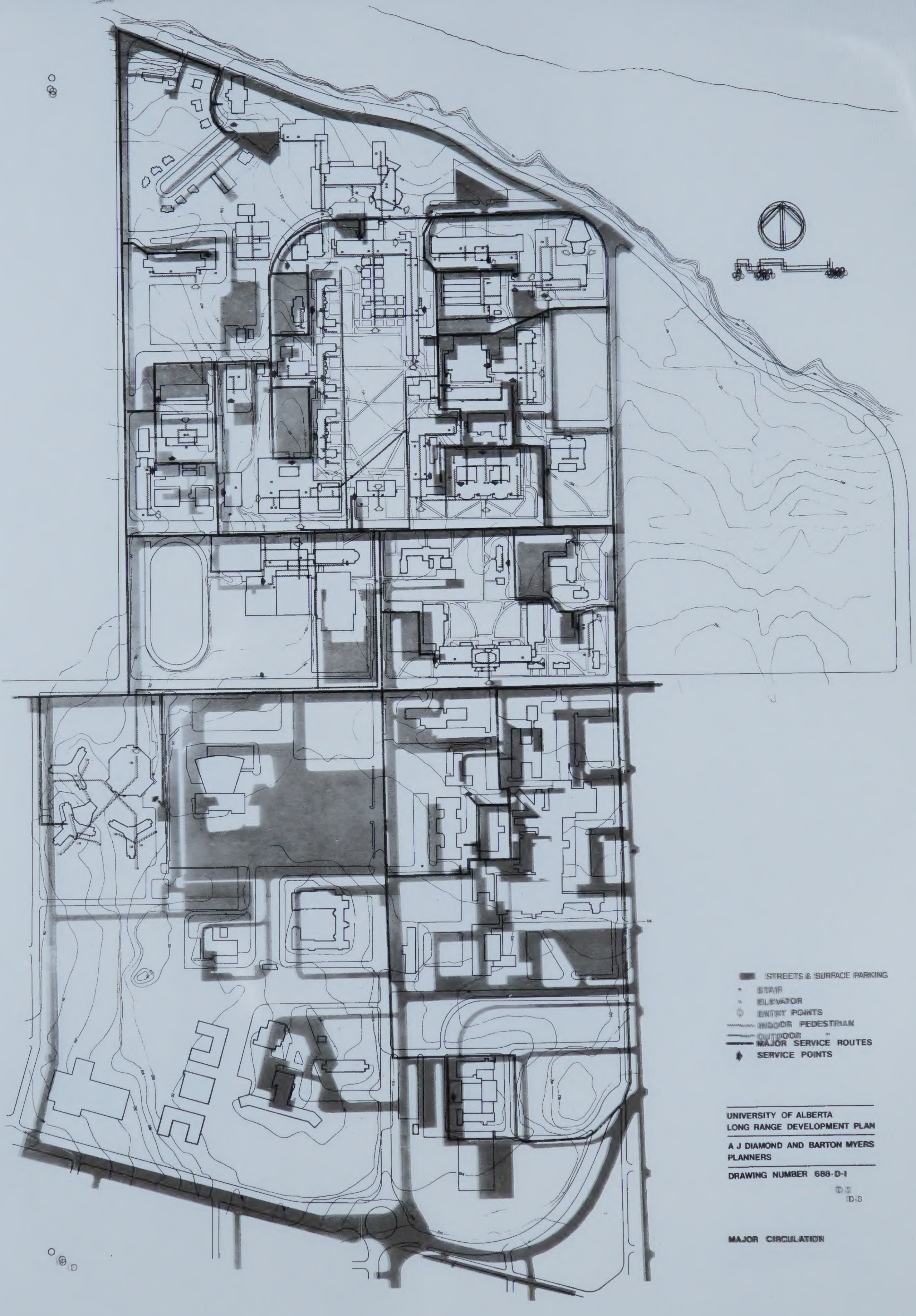
C-2
C-4
C-3

FACULTY LOCI & SUPPORT
FACILITIES



vehicles.

. to accomplish this distribution without creating a


STREETS & SURFACE PARKING
STAIR
ELEVATOR
ENTRY POINTS
INDOOR PEDESTRIAN
OUTDOOR "
MAJOR SERVICE ROUTES
SERVICE POINTS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

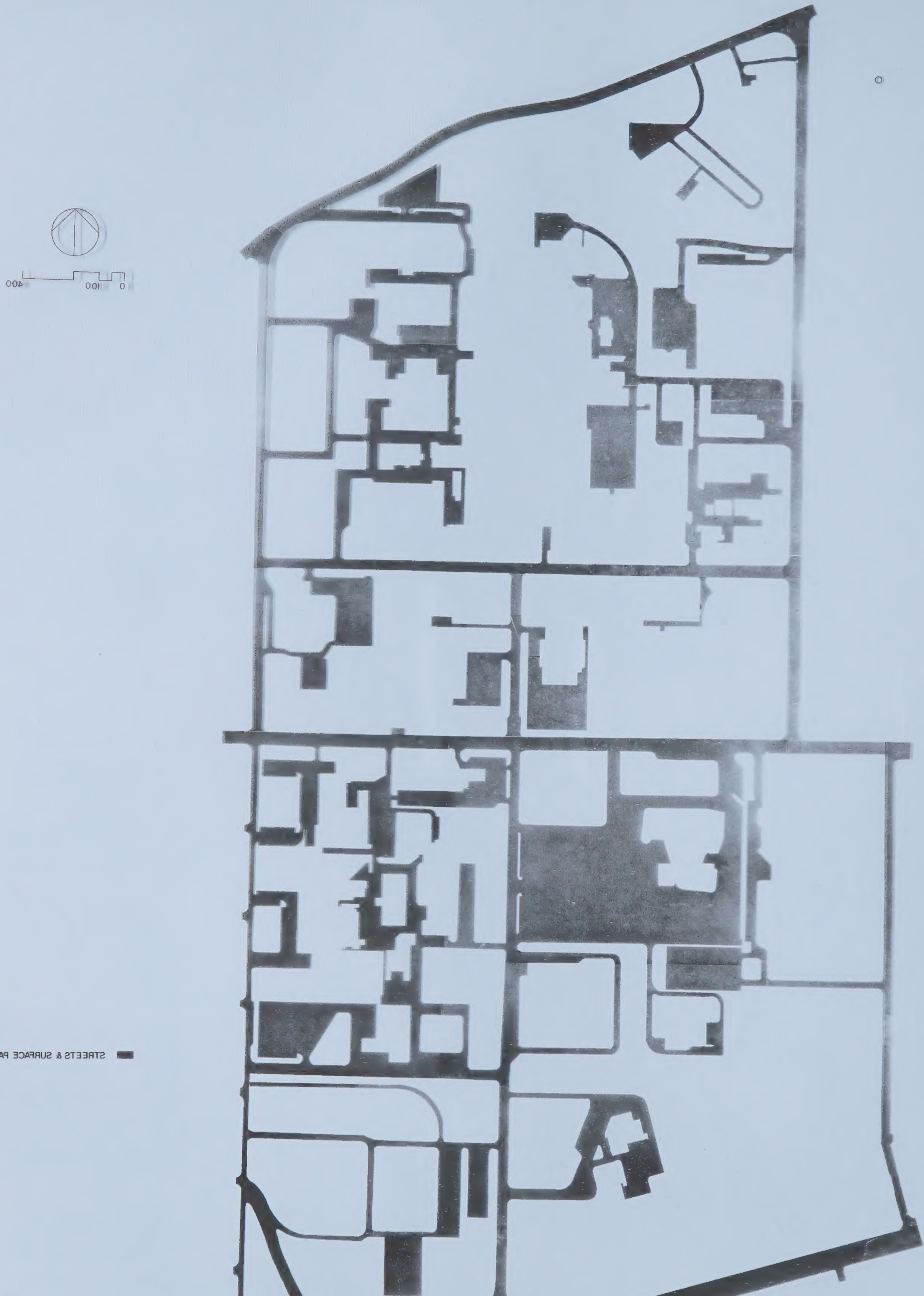
A J DIAMOND AND BARTON MYERS
PLANNERS

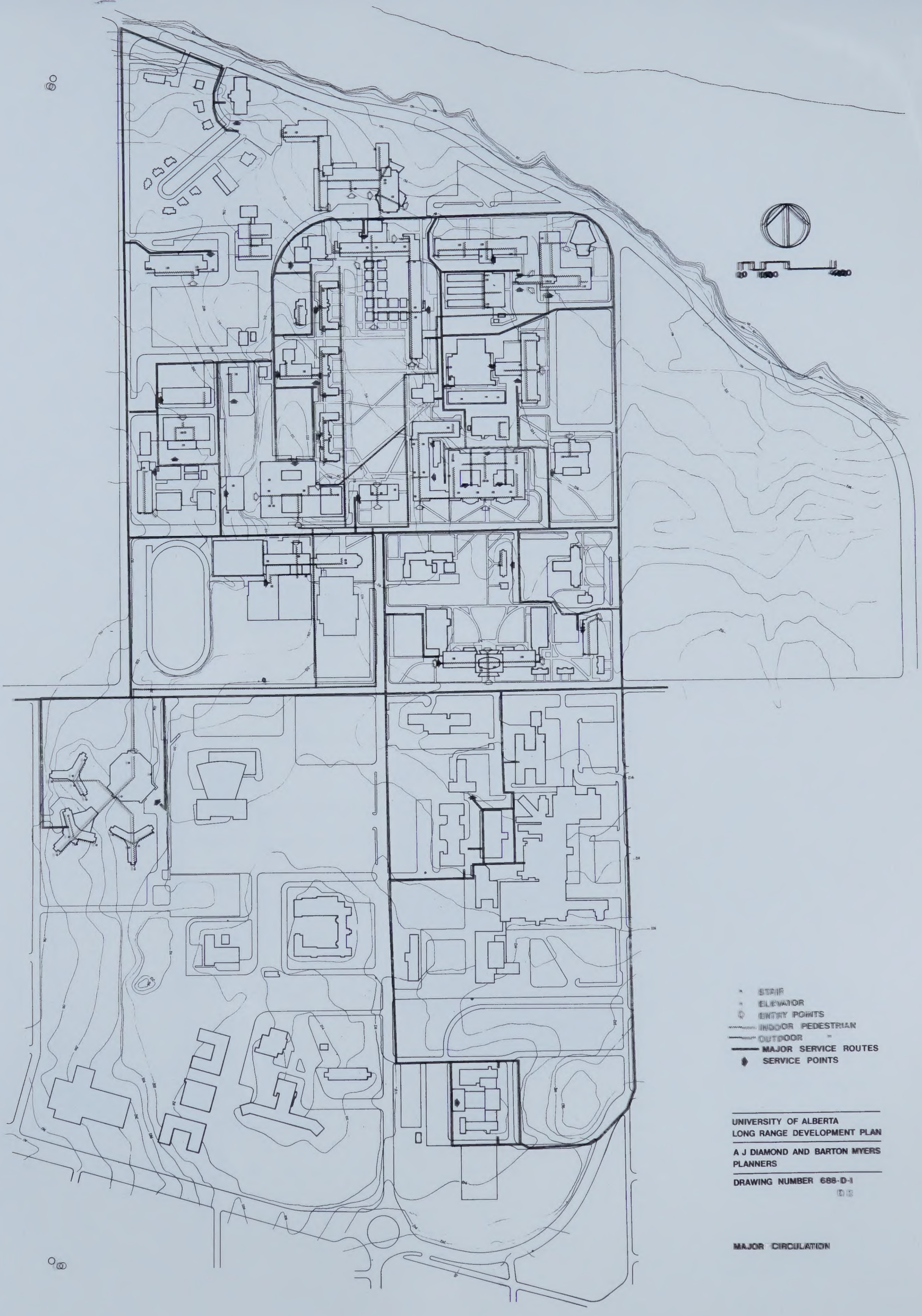
DRAWING NUMBER 688-D-I
D-2
D-3

MAJOR CIRCULATION

vehicles.

. to accomplish this distribution without creating a


0
100
400
■ STREETS & SURFACE PARKING


STAIR
ELEVATOR
ENTRY POINTS
INDOOR PEDESTRIAN
OUTDOOR "
MAJOR SERVICE ROUTES
SERVICE POINTS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

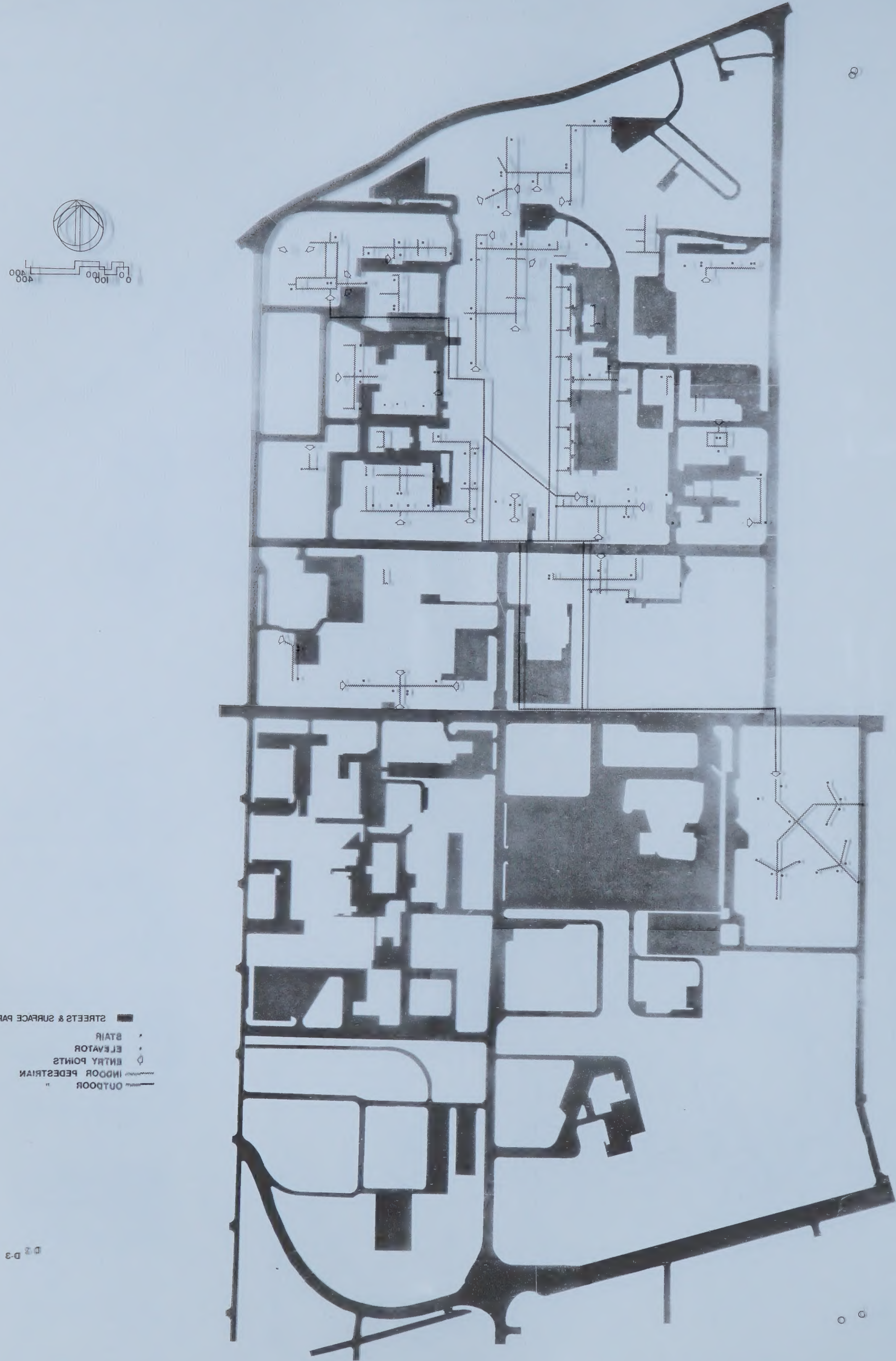
A J DIAMOND AND BARTON MYERS
PLANNERS

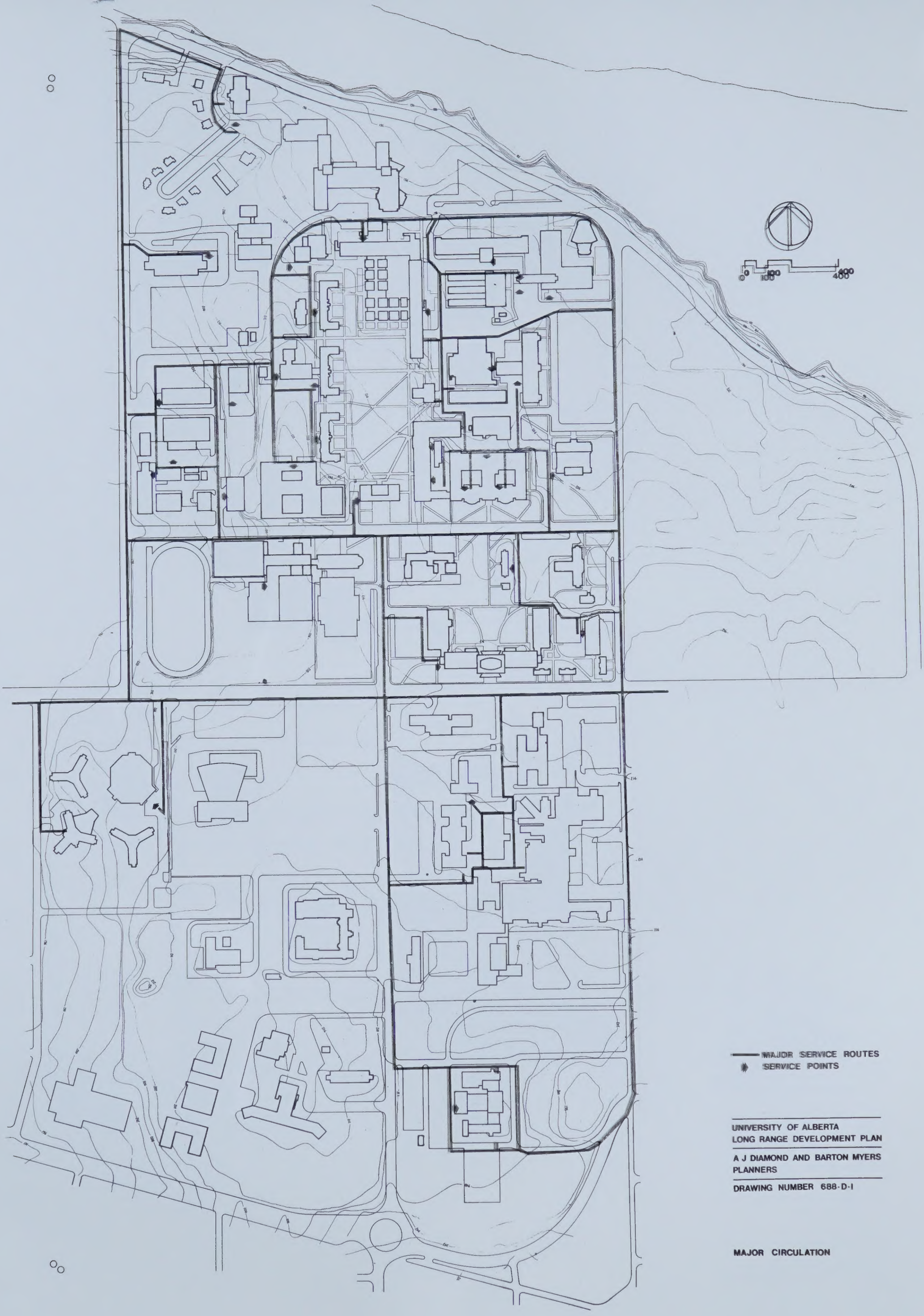
DRAWING NUMBER 686-D-I
D S

MAJOR CIRCULATION

vehicles.

. to accomplish this distribution without creating a


0
100
400
STREETS & SURFACE PARKING
STAIR
ELEVATOR
ENTRY POINTS
INDOOR PEDESTRIAN
OUTDOOR "


0
100
400
MAJOR SERVICE ROUTES
SERVICE POINTS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

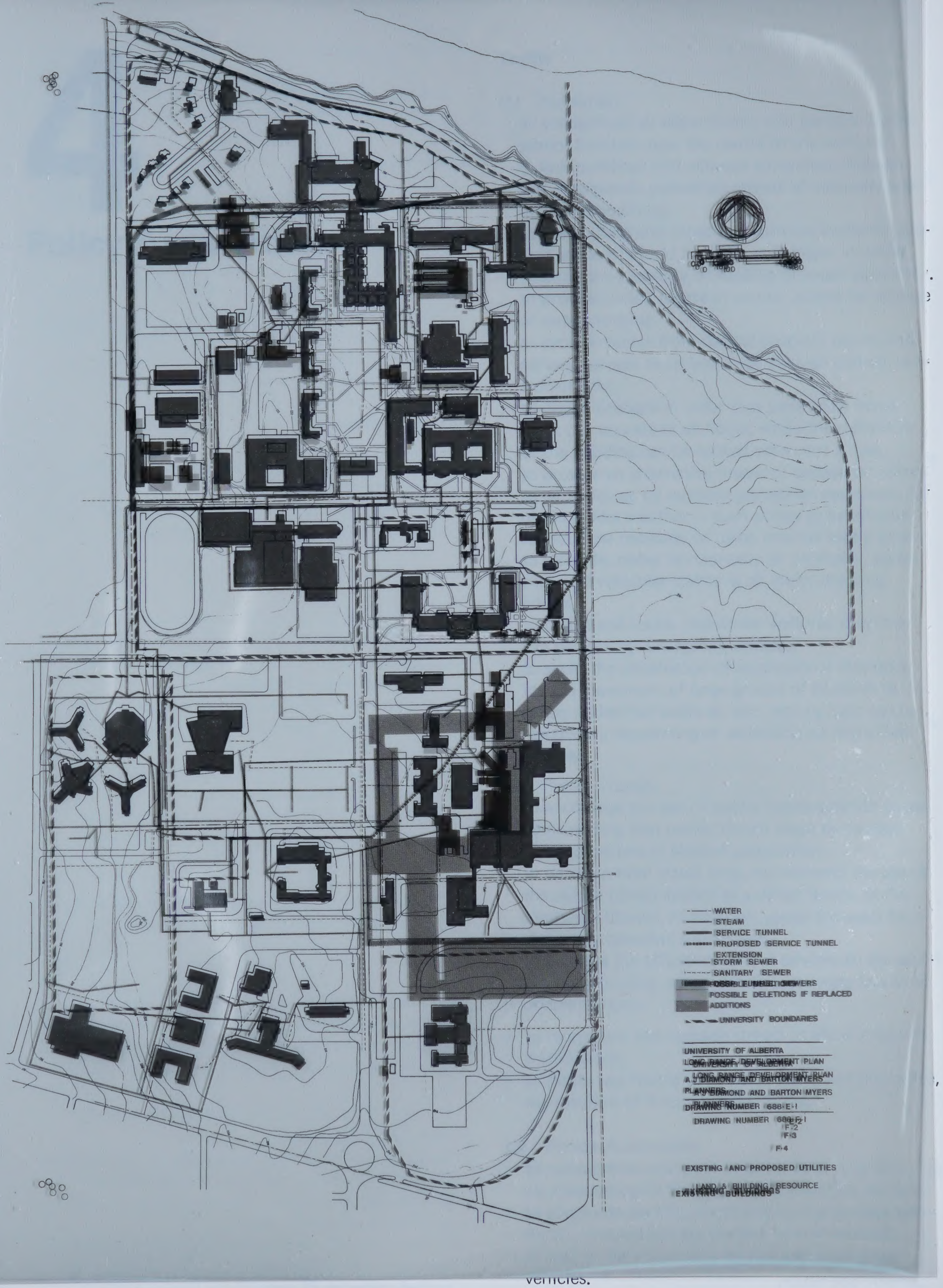
A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688-D-I

MAJOR CIRCULATION

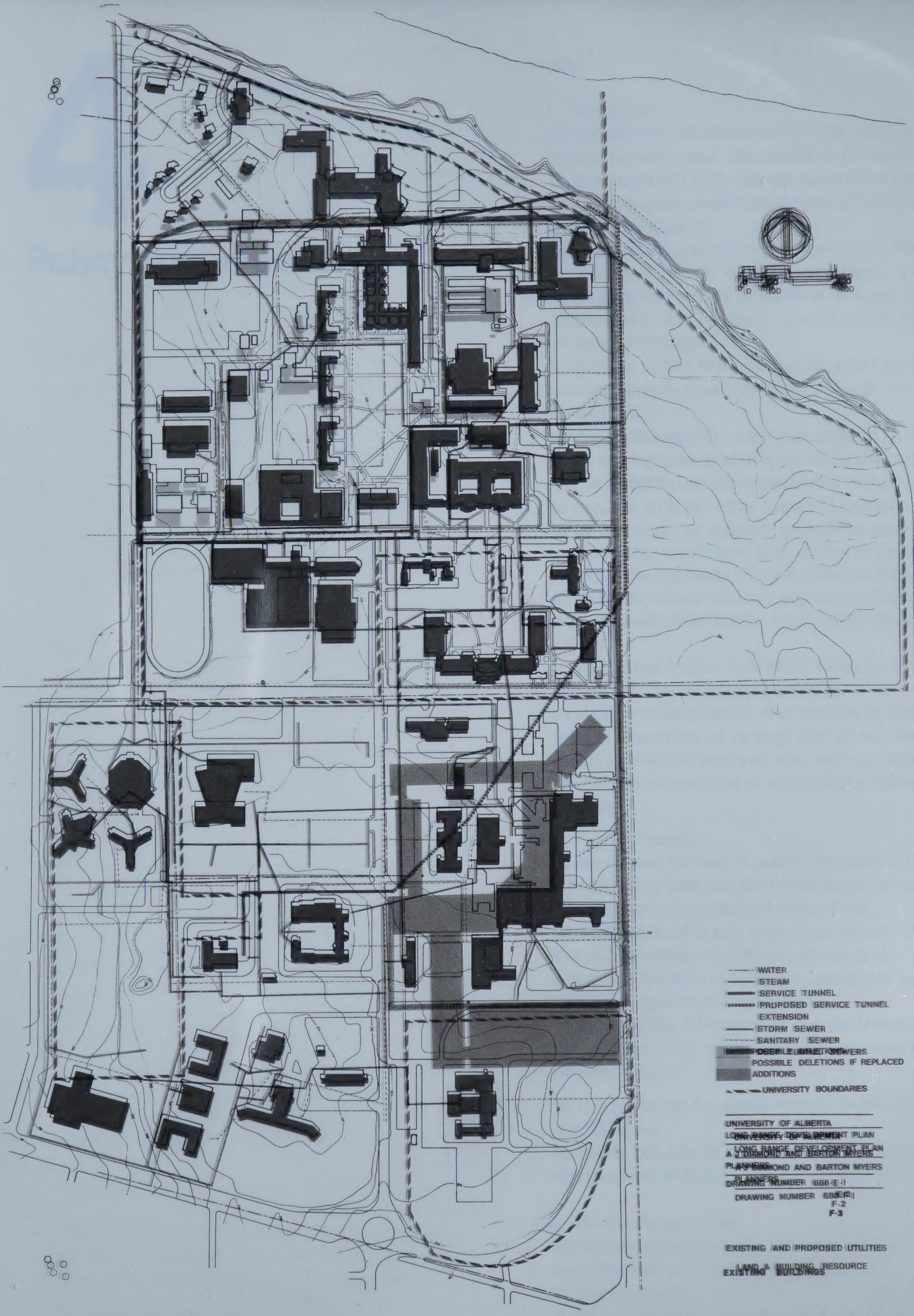
vehicles.

. to accomplish this distribution without creating a


WATER
STEAM
SERVICE TUNNEL
PROPOSED SERVICE TUNNEL EXTENSION
STORM SEWER
SANITARY SEWER
POSSIBLE DELETIONS
POSSIBLE DELETIONS IF REPLACED
ADDITIONS
UNIVERSITY BOUNDARIES
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A J DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688·E·1
EXISTING BUILDINGS
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A J DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688·F·1
F·2
F·3
F·4
EXISTING AND PROPOSED UTILITIES
LAND & BUILDING RESOURCE
0
100

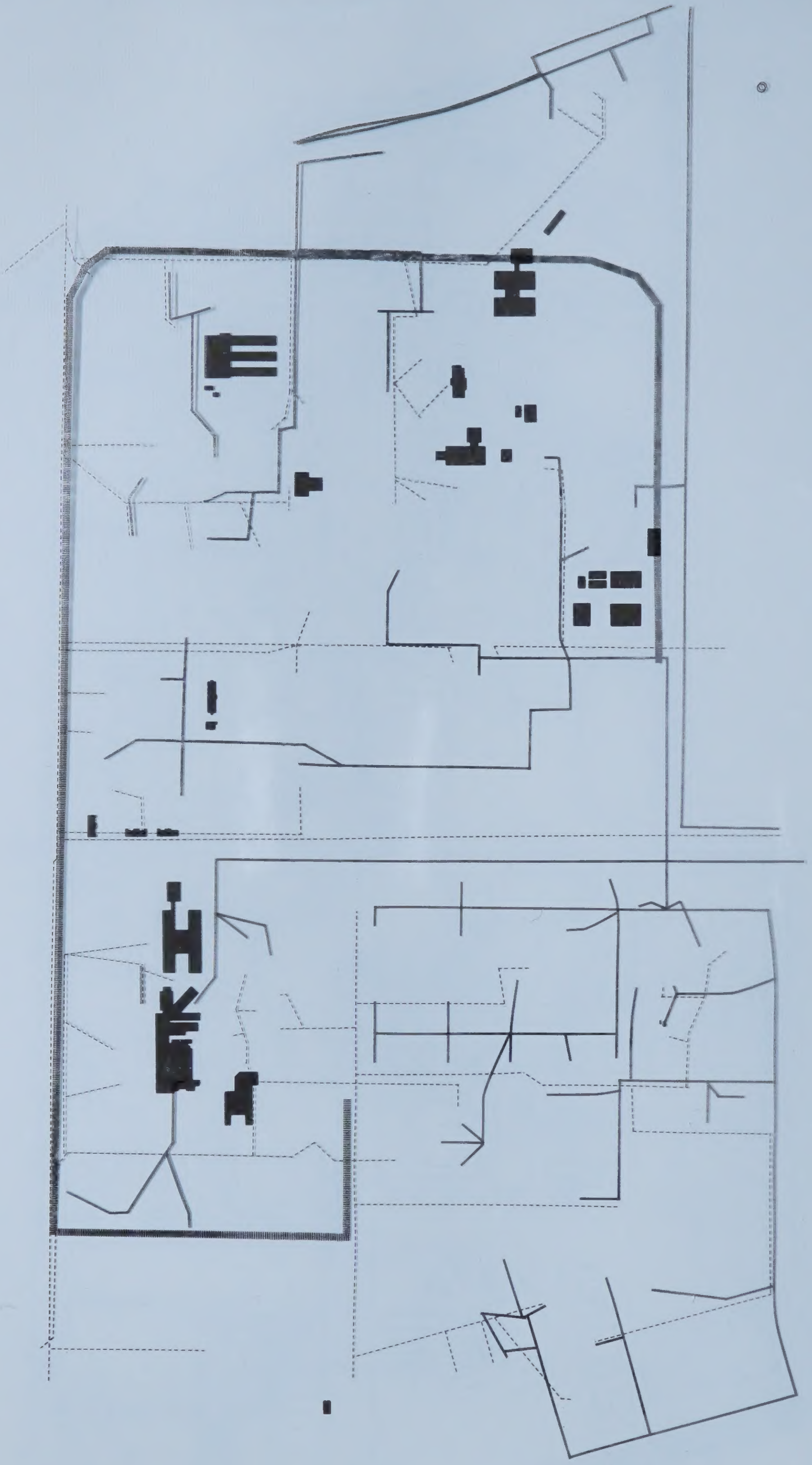
vehicles.

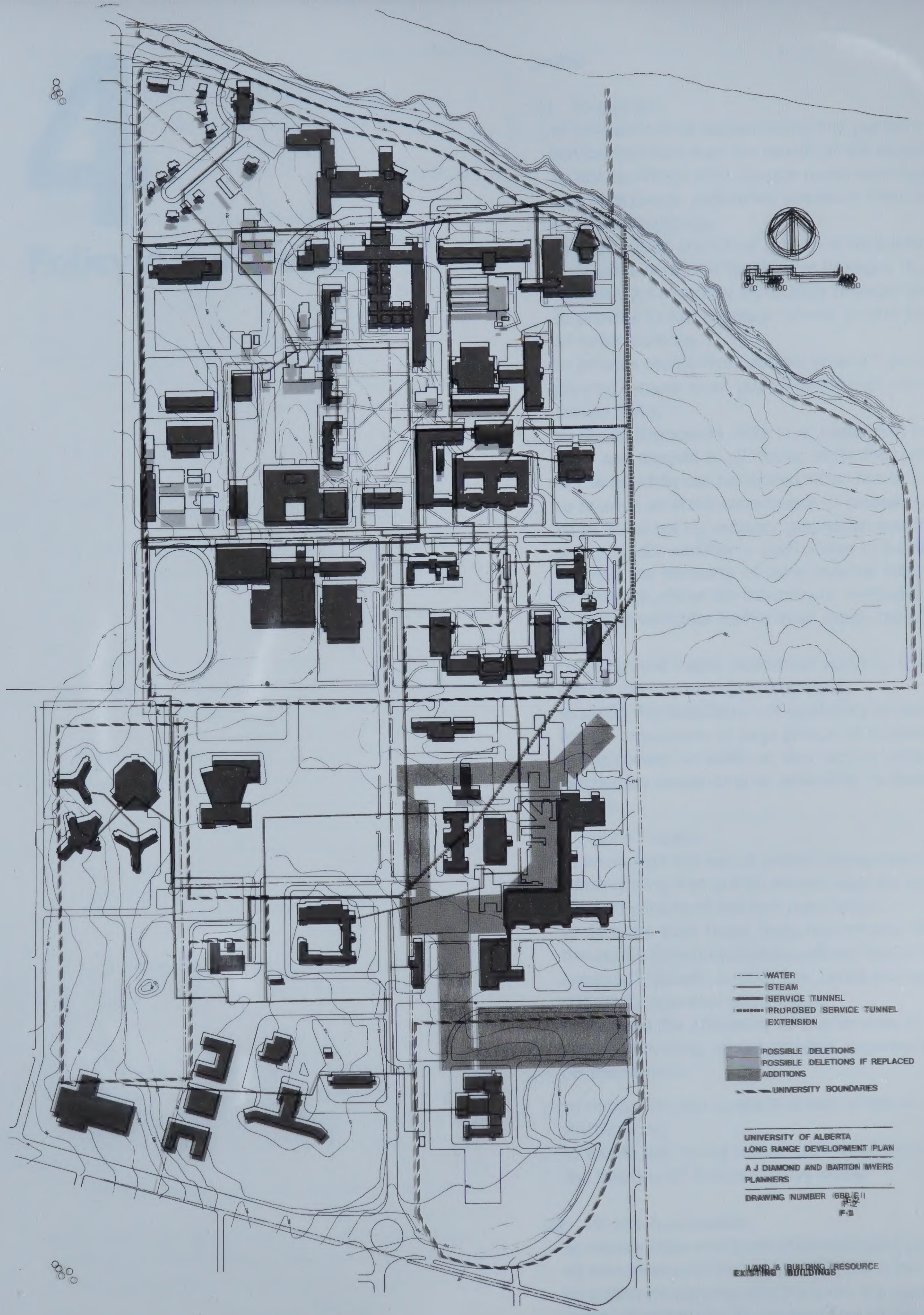
- to accomplish this distribution without creating a


0
100
400
WATER
STEAM
SERVICE TUNNEL
PROPOSED SERVICE TUNNEL EXTENSION
STORM SEWER
SANITARY SEWER
DEEP TUNNEL SEWERS
POSSIBLE DELETIONS
POSSIBLE DELETIONS IF REPLACED
ADDITIONS
UNIVERSITY BOUNDARIES
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A J DIAMOND AND BARTON MYERS
PLANNERS
A J DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688 E-I
DRAWING NUMBER 688 F-I
E-2
F-2
F-3
EXISTING AND PROPOSED UTILITIES
LAND & BUILDING RESOURCE
EXISTING BUILDINGS

vehicles.

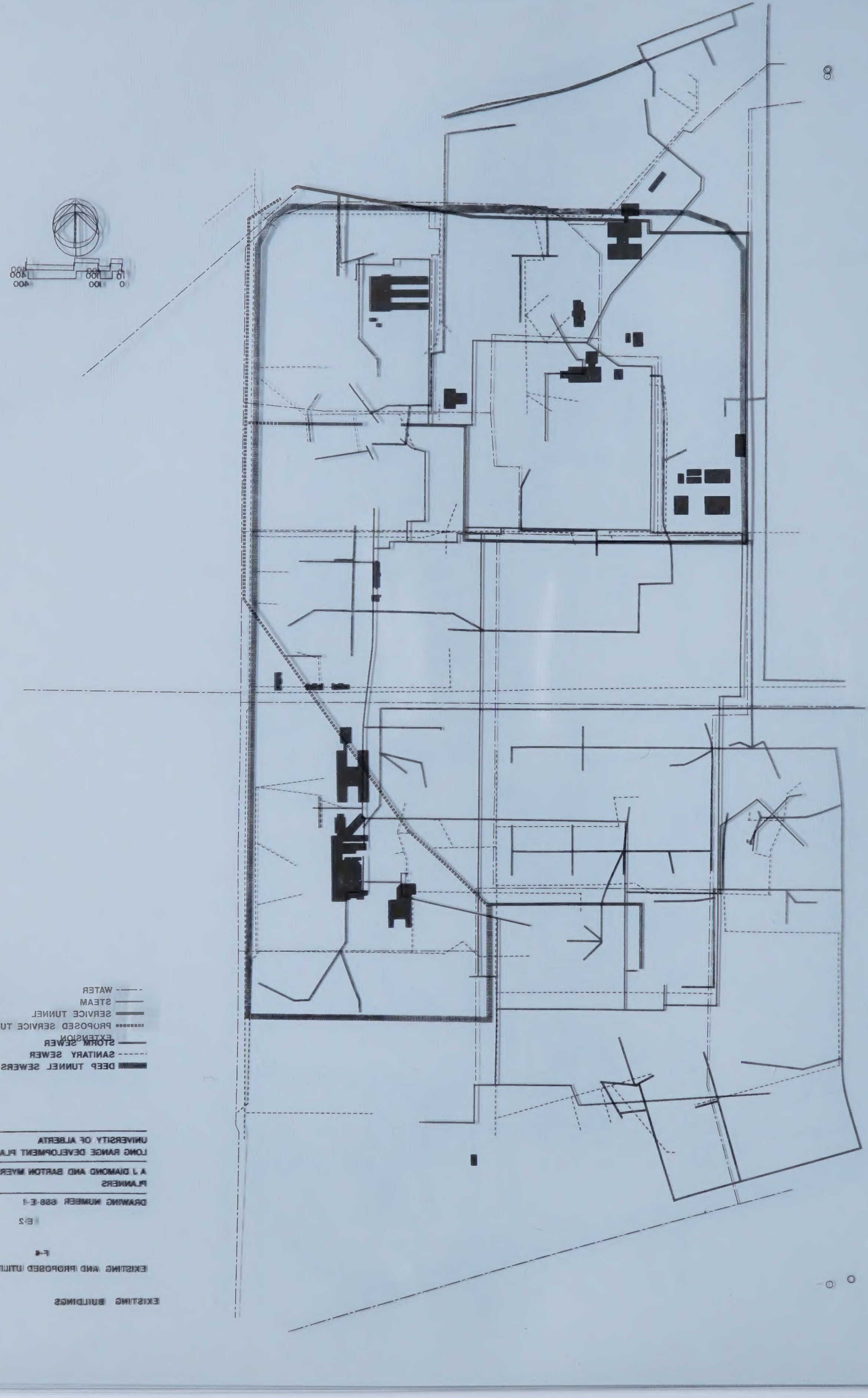
- to accomplish this distribution without creating a




0
100
WATER
STEAM
SERVICE TUNNEL
PROPOSED SERVICE TUNNEL EXTENSION
POSSIBLE DELETIONS
POSSIBLE DELETIONS IF REPLACED
ADDITIONS
UNIVERSITY BOUNDARIES
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A J DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688 F-1
F-2
F-3
LAND & BUILDING RESOURCE
EXISTING BUILDINGS

vehicles.

- to accomplish this distribution without creating a


0
100
400
WATER
STEAM
SERVICE TUNNEL
PROPOSED SERVICE TUNNEL EXTENSION
STORM SEWER
SANITARY SEWER
DEEP TUNNEL SEWERS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

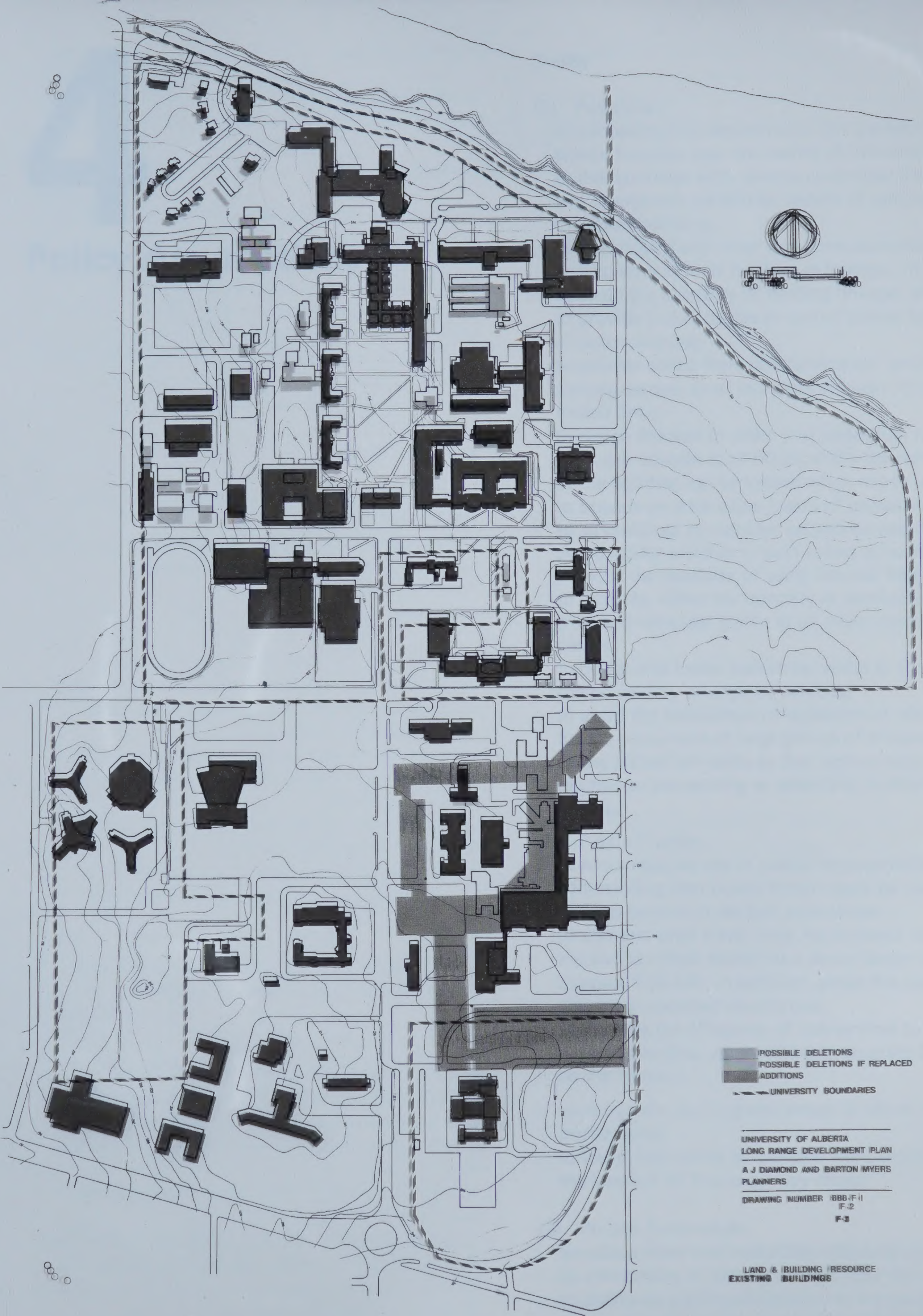
DRAWING NUMBER 668-E-1

E-2

F-4

EXISTING AND PROPOSED UTILITIES

EXISTING BUILDINGS


0
100
POSSIBLE DELETIONS
POSSIBLE DELETIONS IF REPLACED
ADDITIONS
UNIVERSITY BOUNDARIES

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

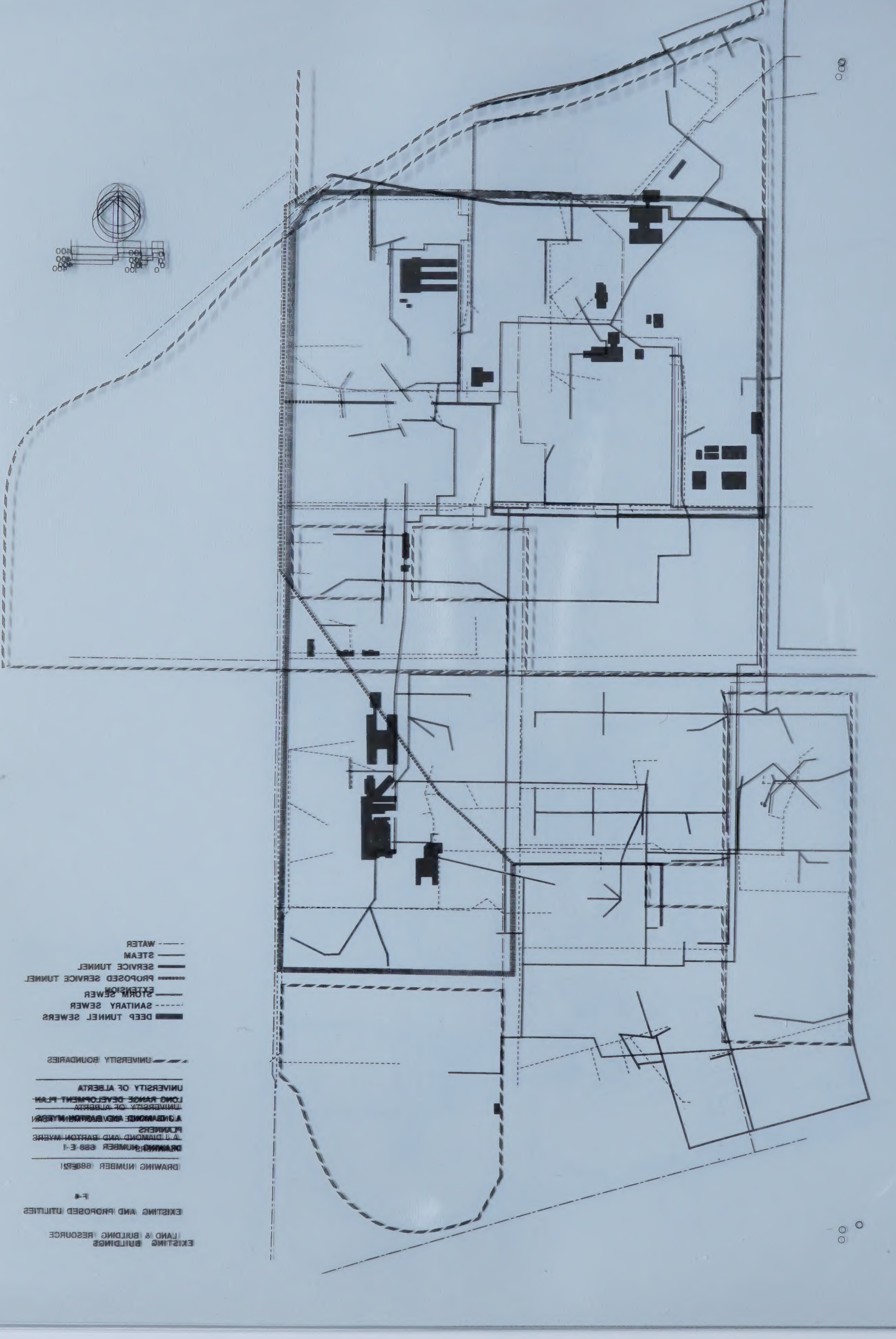
A J DIAMOND AND BARTON MYERS
PLANNERS

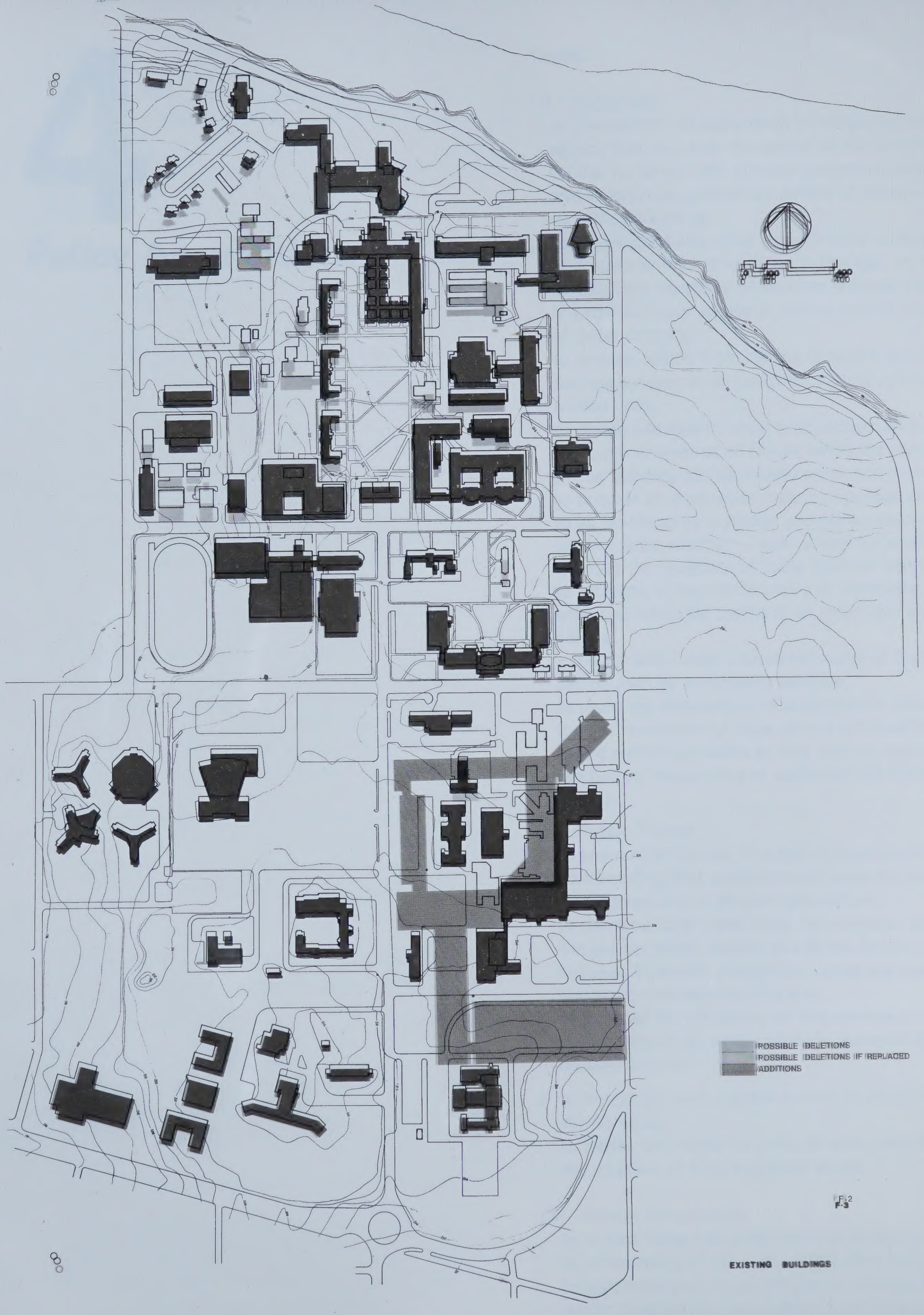
DRAWING NUMBER 688 F-1
F-2
F-3

LAND & BUILDING RESOURCE
EXISTING BUILDINGS

vehicles.

- to accomplish this distribution without creating a


0
100
200
400
WATER
STEAM
SERVICE TUNNEL
PROPOSED SERVICE TUNNEL EXTENSION
STORM SEWER
SANITARY SEWER
DEEP TUNNEL SEWERS
UNIVERSITY BOUNDARIES
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
A.J. DIAMOND AND BARTON MYERS
PLANNERS
DRAWING NUMBER 688-E-21
F-4
EXISTING AND PROPOSED UTILITIES

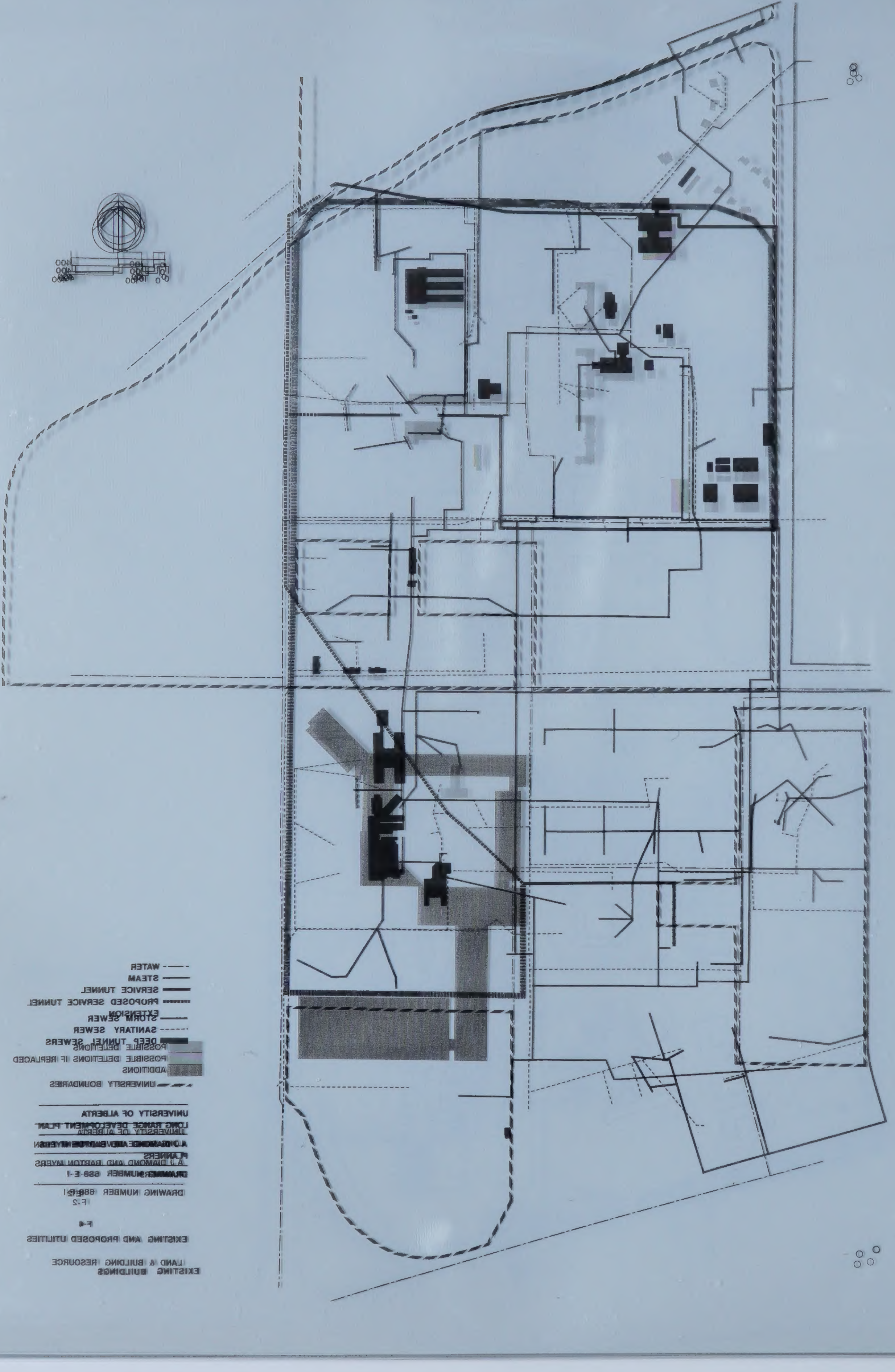

0
100
400
POSSIBLE DELETIONS
POSSIBLE DELETIONS IF REPLACED
ADDITIONS

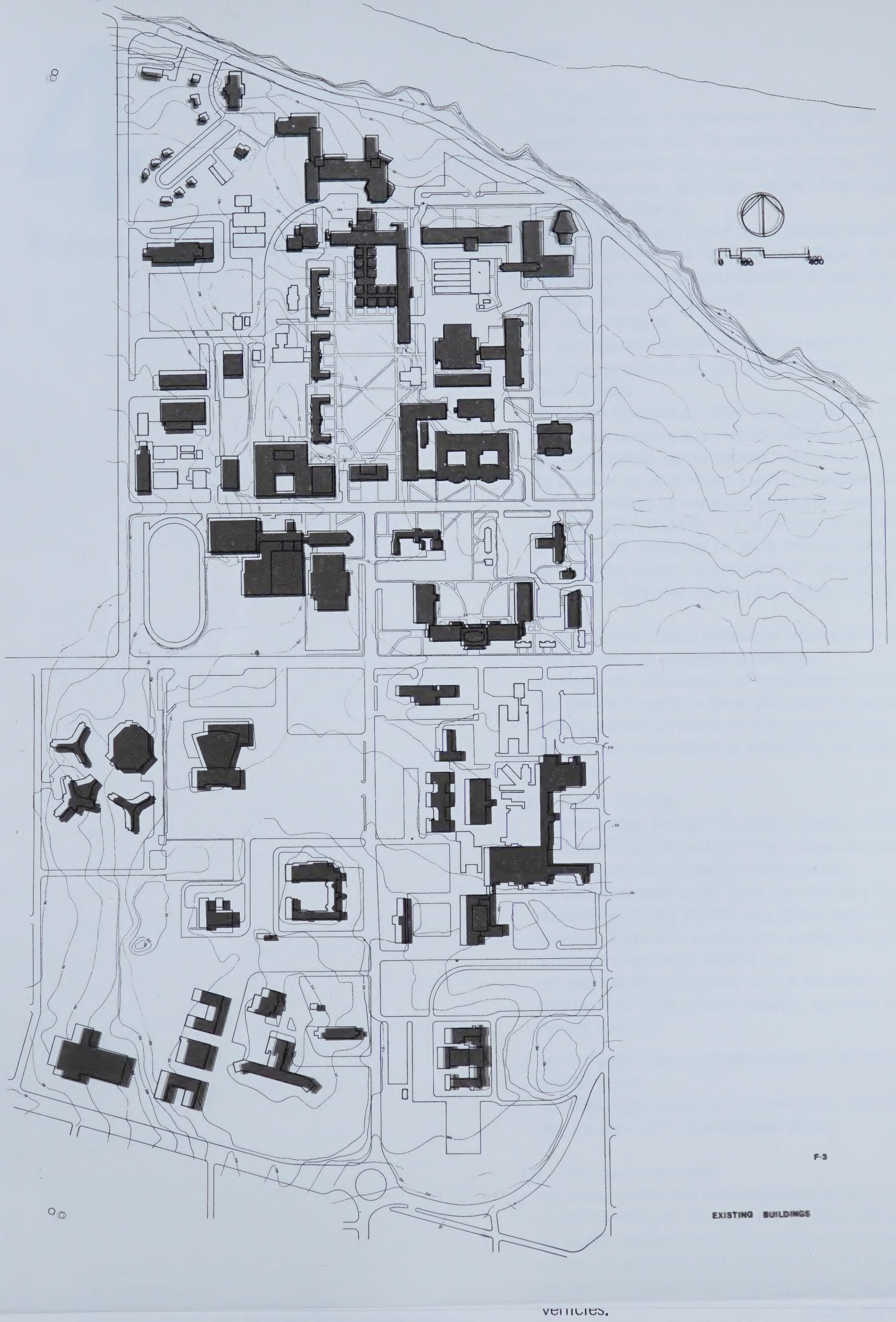
F-2
F-3

EXISTING BUILDINGS

vehicles.

- to accomplish this distribution without creating a


WATER
STEAM
SERVICE TUNNEL
PROPOSED SERVICE TUNNEL EXTENSION
STORM SEWER
SANITARY SEWER
DEEP TUNNEL SEWERS
POSSIBLE DELETIONS
POSSIBLE DELETIONS IF REPLACED
ADDITIONS
UNIVERSITY BOUNDARIES
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF ALBERTA
A.J. DIAMOND AND BARTON MYERS
PLANNERS
A.J. DIAMOND AND BARTON MYERS
DRAWING NUMBER 688-E-1
DRAWING NUMBER 688-E-1
F-2
F-4
EXISTING AND PROPOSED UTILITIES
LAND & BUILDING RESOURCE
EXISTING BUILDINGS
0 100 400
0 100 400

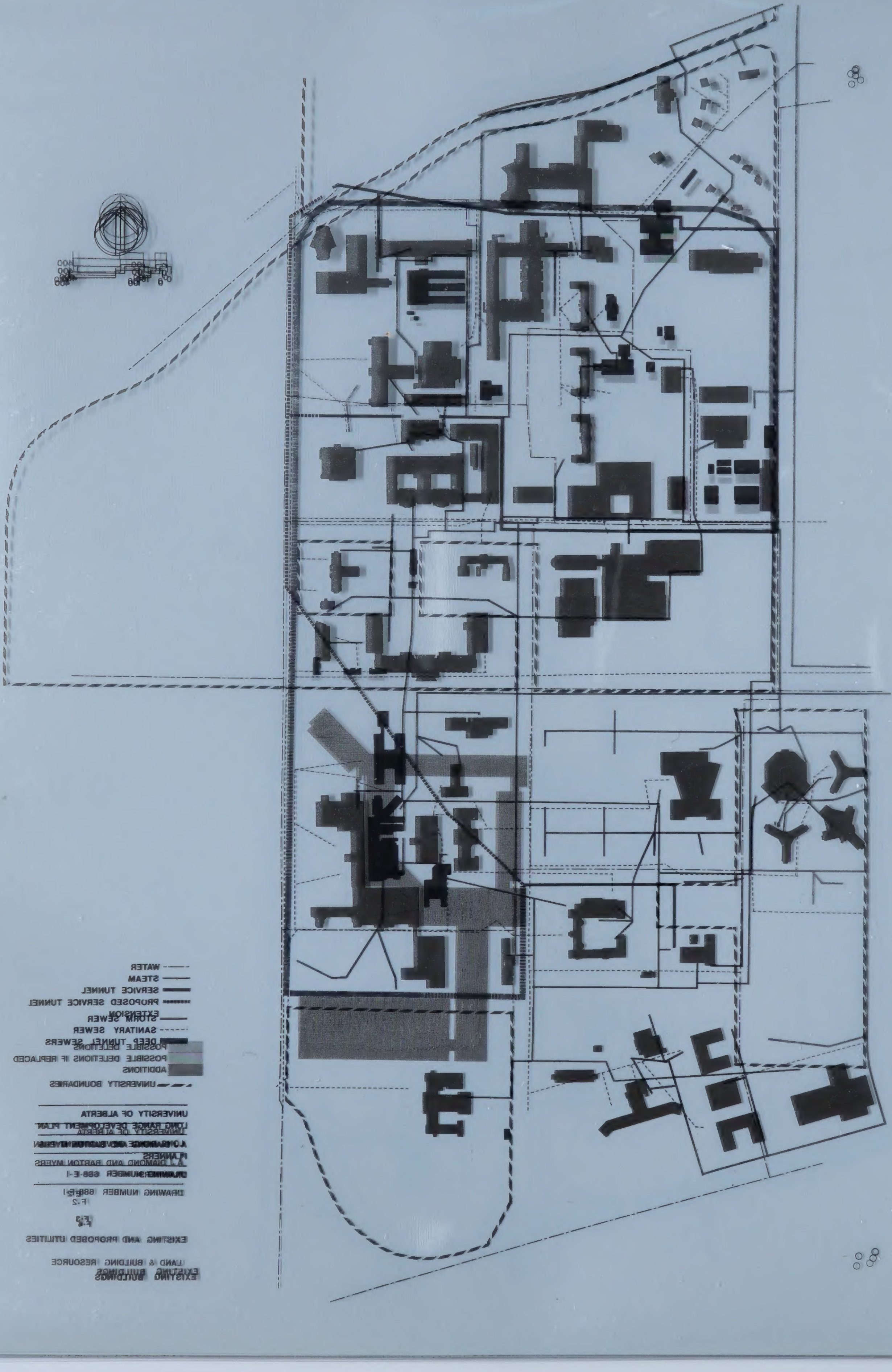


F-3

EXISTING BUILDINGS

vehicles.

- to accomplish this distribution without creating a



WATER

STEAM

SERVICE TUNNEL

PROPOSED SERVICE TUNNEL EXTENSION

STORM SEWER

SANITARY SEWER

DEEP TUNNEL SEWERS

POSSIBLE DELETIONS

POSSIBLE DELETIONS IF REPLACED

ADDITIONS

UNIVERSITY BOUNDARIES

UNIVERSITY OF ALBERTA

LONG RANGE DEVELOPMENT PLAN

UNIVERSITY OF ALBERTA

A.J. DIAMOND AND BARTON MYERS

PLANNERS

A.J. DIAMOND AND BARTON MYERS

DRAWING NUMBER 688-E-1

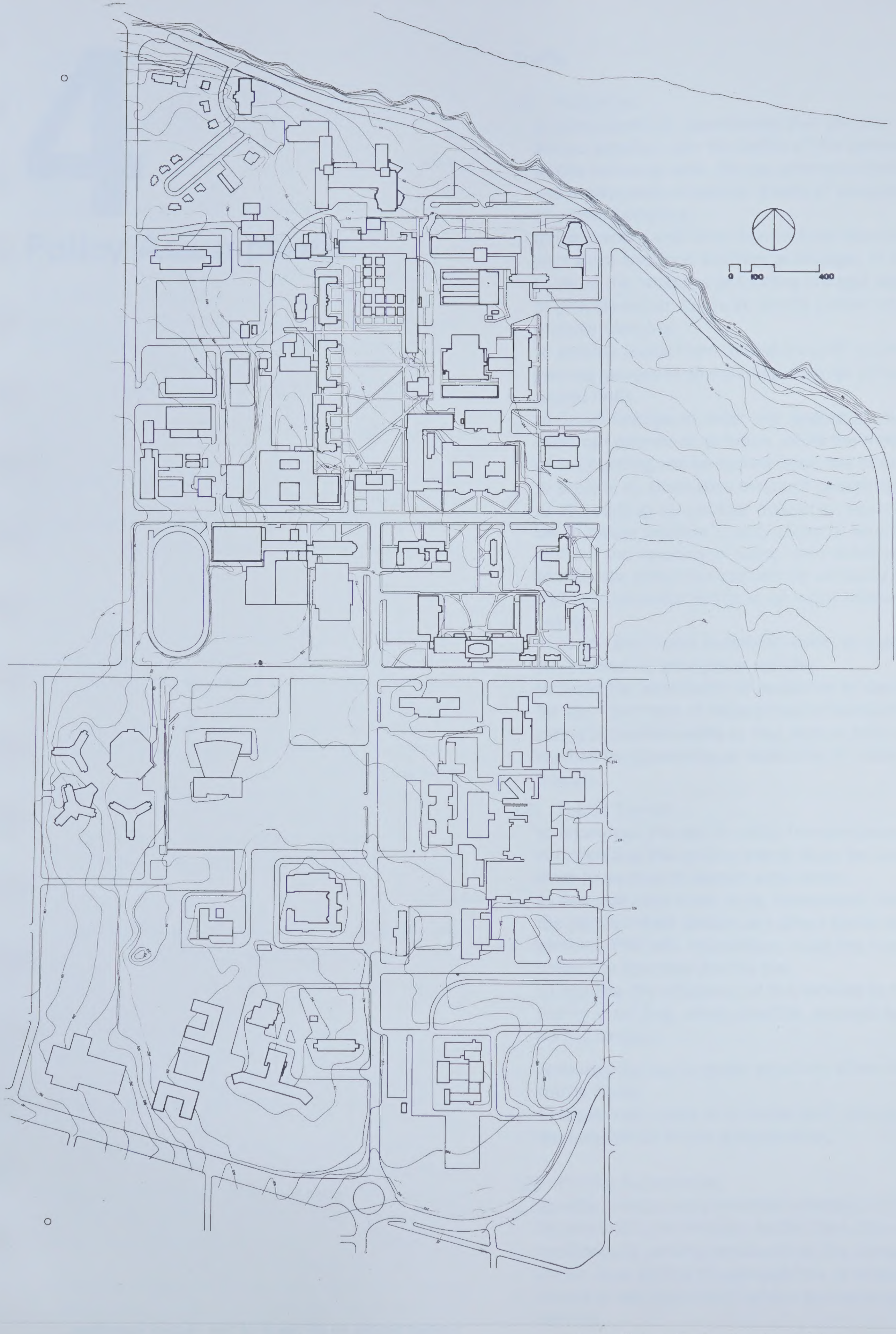
DRAWING NUMBER 688-E-1

F.2

EXISTING AND PROPOSED UTILITIES

LAND & BUILDING RESOURCE

EXISTING BUILDINGS



. to accomplish this distribution without creating a

4

Policy Assumptions

Traffic

(1) Pedestrian.

. to concentrate all departments that perform a high service function near the centre of the campus.

. to link buildings with climate controlled linkages and incorporate pedestrian streets of adequate width within buildings.

. to use housing and other non-formula academic support space and food facilities as linkages, in order to avoid the necessity of funding linkages separately.

. to provide locker rooms at central points for storage of outer clothing.

. to provide access from central drop-off points and parking garages to all buildings through climate controlled links.

. to design linkages in order that pedestrian movement can operate at all hours, while the remainder of the building can be locked when not in use.

. to provide an alternative means of pedestrian access to all buildings by outdoor pedestrian easements for use in milder weather — such access to be effected without the necessity of using internal lobby areas.

. to separate, either horizontally or vertically, pedestrian and vehicular traffic at all major crossing points.

. to design and locate pedestrian walks so that they can be used by emergency vehicles.

. to avoid the installation of escalators or elevators for the movement of large groups of students by locating pedestrian walks so that lecture halls can be reached by descending or ascending no more than 3 levels.

(2) Public Transit.

. to encourage the use of public transportation by recommending that public transit stops be located close to centres of student population.

. to decrease total travel time, recommend the use of the public transit system as a direct feeder to the campus. This will, in addition, avoid the need for a university operated shuttle bus.

. to increase the efficiency of bus services to the campus by providing, where possible, separate bus lanes on the campus.

. to reorganize and upgrade streets to allow improved traffic flows.

. to locate bus routes to coincide with, and thus serve, the location of future subway stops.

(3) Private Automobile.

. to reduce noise and pedestrian-vehicular conflict by eliminating all through traffic from the campus.

. to distribute parking structures on the campus perimeter, thus leaving the campus free of vehicles, except in the instance of service and emergency vehicles.

. to accomplish this distribution without creating a

"ring road" which would, in the future, restrict physical expansion of the university.

- to physically and visually unite the campus with the Health Sciences Centre, the Lister Housing complex and the riverbank.

(4) Internal University Circulation.

- to effect interface between automobile and pedestrian along major streets while retaining a physical separation.
- to provide access by automobile for drop-off close to centres of student population.
- to locate service roads so as to be visually and physically unobstrusive.
- to design pedestrian easements so that emergency vehicles will not be prevented from gaining access to all parts of the campus.

Parking

- to provide parking according to the Wilbur Smith standard of approximately 500 cars per 1,000 students.
- to use parking structures, and to park under new buildings when possible, because of high land costs.
- to concentrate parking in locations having close proximity to student population concentrations in order to place all parts of the campus within a 7 minute walk of parking.

Athletics and Recreation

- to encourage spectator interest and participation in intramural sport, facilities should be easily accessible from areas of student concentration.
- to distribute individually used facilities such as squash courts about the campus and related to major movement systems.
- to locate such facilities to encourage a mix of resident and non-resident students.

Housing

- to create a university community by locating housing on the campus.
- to provide a diversity of accommodation type with respect to space, type of ownership and location.
- to provide housing on campus for as many as possible.

Space Projections

- to devise a principle of faculty growth to permit as much flexibility for growth as possible.
- to locate faculties so that unanticipated future expansion can occur.

Academic Linkages

- to assign space to activities having an affinity for one another as close together as possible.

Community Linkages

- to eliminate the "university wall" and visually unite the university and the surrounding community.
- to locate the Fine Arts Centre, particularly art galleries and the Performing Arts Centre, for easy access by the general public.
- generally to locate such university facilities adjacent to 87th Ave. and 112th St. as may best make use of the rapid transit, and to compliment the intense commercial development in South Garneau.

Service and Storage

- to locate purchasing, central stores and shipping and receiving in one building.
- to site the building close to the central campus without using prime academic expansion space.

Food Service

- to provide for the possibility of incorporating minor food facilities along major circulation routes to provide a diversity of food type and quality: these could be by concession.
- to locate major food facilities to be easily accessible from major pedestrian nodes and centres of student population.
- to locate food facilities to encourage a mix of resident and non-resident students.
- to locate vending machines in conjunction with lounges related to the pedestrian street system.

Utilities

- where feasible to incorporate future service lines within the basement of new construction.

Libraries

- to link the existing Cameron Library, North Garneau and Rutherford Libraries by the incorporation of pedestrian streets in the proposed library addition Phase I and linkages to the South Laboratory.
- to convert the South Laboratory into a reading room and study space.
- to locate the North Garneau Library so that a direct link from Cameron Library is possible, and so that it is located on a major pedestrian street and vehicular street for book drop-offs.
- to place the School of Library Science in a position central to all major collections, with climate controlled access to all parts of the library complex.

5

The Structure of the Long Range Development Plan

Diagram 8 graphically and schematically illustrates the organizational system of the campus plan.

The structure of the plan is based on
(1) movement systems,
(2) preferred academic loci and affinities,
(3) climate controlled linkages,
(4) open space system,
(5) community context and
(6) adjacent land use.

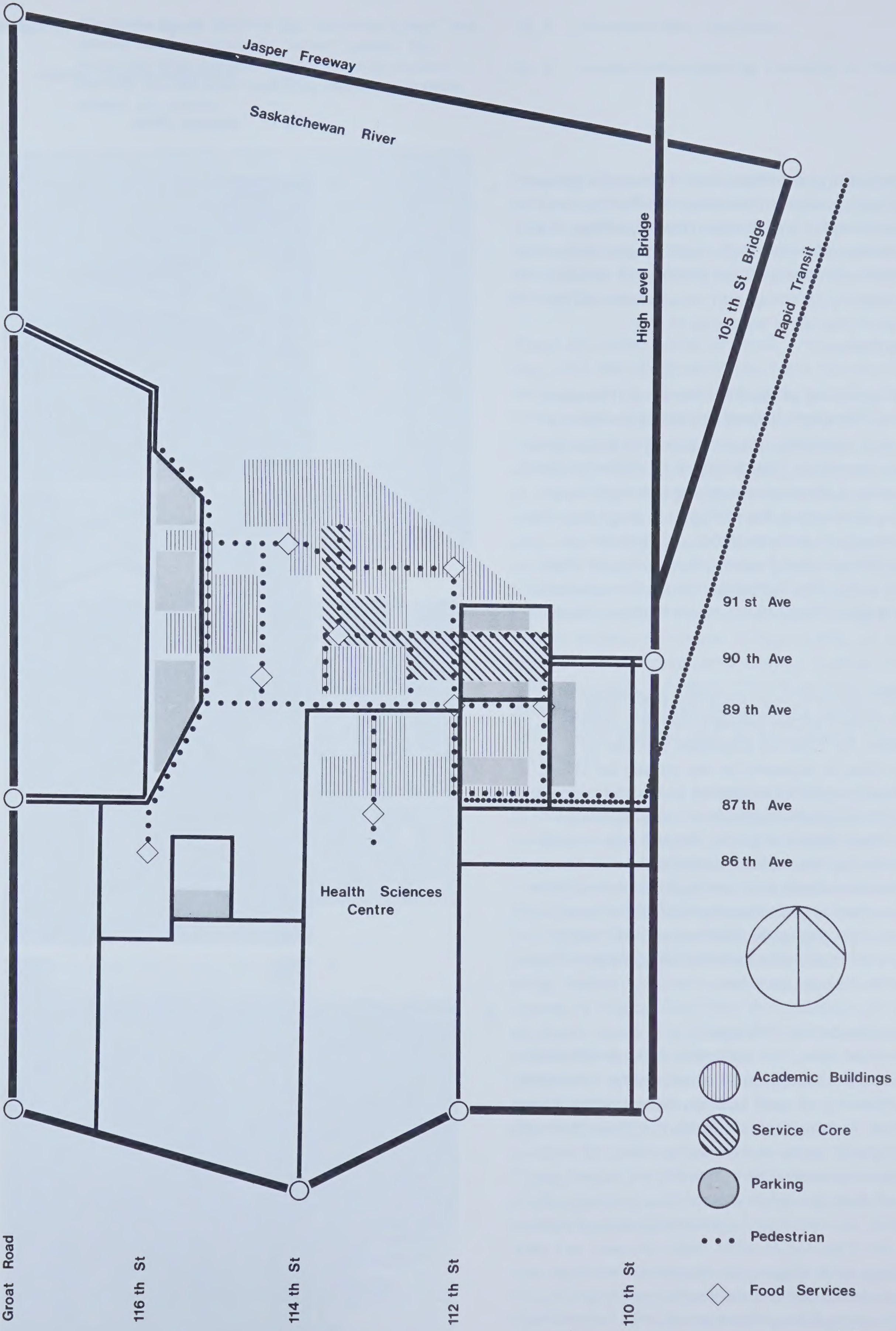
The drawings prepared and included in this report are as follows:

G.1 Base Plan
G.2 Faculty Loci and Committed Expansion
G.3 Required Space for a 30,000 Campus
G.4 Major Non-Academic Facilities
G.5 Pedestrian Movement
G.6 Housing
G.7 Parking Structures
G.8 Open Space
G.9 Outdoor Sports Facilities
G.10 Streets and Surface Parking
G.11 Bus Routes
G.12 Service Routes
G.13 Automobile Routes
G.14 Space Data Sheet

(1) Movement systems.

The intention is to serve the campus well with both private and public forms of transportation, yet prevent undue penetration into the campus by vehicles. Where any penetration does occur, grade separations between pedestrian and vehicles are made in heavily travelled areas, and horizontal separations made in lightly travelled areas.

This is achieved by distributing the major parking structures on the western and eastern approaches to the campus, thereby docking automobiles before they reach the heart of the campus. The vehicular movement system may be seen as a series of filters — the


Jasper Freeway
Saskatchewan River
High Level Bridge
105 th St Bridge
Rapid Transit
91 st Ave
90 th Ave
89 th Ave
87 th Ave
86 th Ave
Health Sciences Centre
Groat Road
116 th St
114 th St
112 th St
110 th St
Academic Buildings
Service Core
Parking
Pedestrian
Food Services

(Diag. 8)

Engineering building and Phase I of the new Engineering building which houses Chemical and Petroleum Engineering. Hence it is envisaged that Electrical and Civil Engineering will eventually cede its space to a science, which will have a close relationship to the existing Chemistry building, and move westward to align itself with the other elements in the Engineering Centre.

The general grouping of faculties does not, however, mean that the concept of faculties as academic entities is the only academic organization that is possible, or indeed in operation. Departments of different faculties at times have closer connections between them than they do with other departments in their own faculty: there seems to be a tendency, in some areas, towards the formation of academic schools, or interdisciplinary units. The formalization of this academic system has indeed taken place in some other universities.

By linking all faculties with enclosed pedestrian streets, convenient access between departments is made possible. By locating academic services of general use close or adjacent to the pedestrian street systems this convenience is further enhanced. Associating heavy load bearing facilities — service-course lecture theatres, classrooms, and laboratories — with pedestrian streets, in addition, prevents undue disruption of the more private and particular spaces of each faculty. Thus the careful placement of departments, which have a high degree of interaction with other departments, to exploit this accessibility, makes alternate academic systems possible.

(3) Climate controlled linkages.

Until the present time, the university has consisted of a set of isolated buildings; this has tended to reinforce the semi-autonomy of each faculty, discouraging the notion of mix. In microcosmic form, it is the commuting city — place of work and residence separate and distinct. The long range development plan introduces the notion of a much higher mix of uses — academic, non-academic, and housing functions are seen as interrelated, all contributing to what might be seen as a new form of college on a large scale. Instead of having a centre for student activities, in the form of the Students' Union building, these are distributed, rather, along the pedestrian ways throughout the campus. This serves two purposes, the first being to decentral-

fig. 1 *The Range, University of Virginia*

fig. 2 *Burlington Arcade, London*

fig. 3 *Galleria, Milan*

1

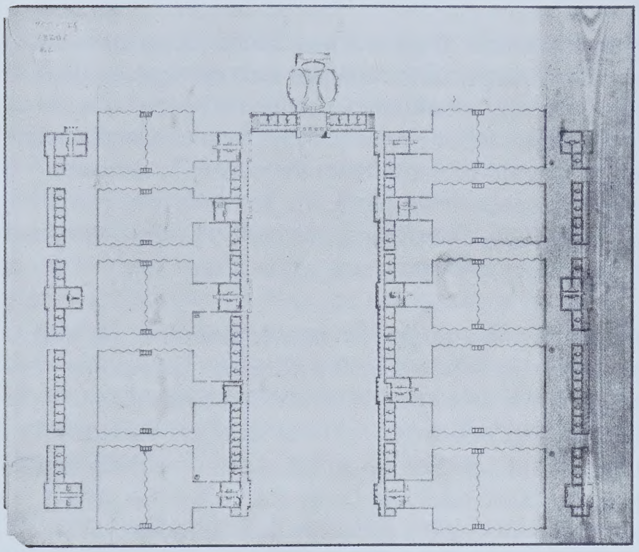
2

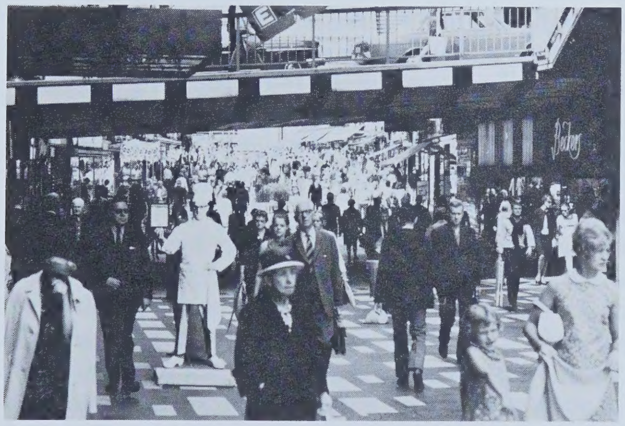
3

fig. 4 *The University of Virginia; the "academic village" was equally revolutionary in its "street" system. The academic village has now been replaced by a university city, but the basic organizing element, the street system, can remain.*

fig. 5 *Pedestrian Mall, Stockholm*

fig. 6 *Student Union Building. University of Alberta*





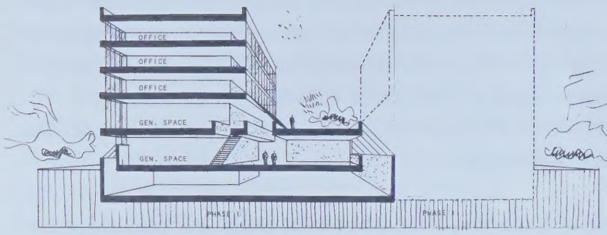
4 ize these services — food, recreation, commercial type
services — in order to make them more readily access-
ible for resident and non-resident alike, (major food
services occur at the junction of main pedestrian
streets) and the second is to introduce a vitality to the
pedestrian ways.

There are many forms of street, from alley to expressway, and the street performs many functions — message carrier, orientation giver, ordering device, living room, movement channel and social agent.

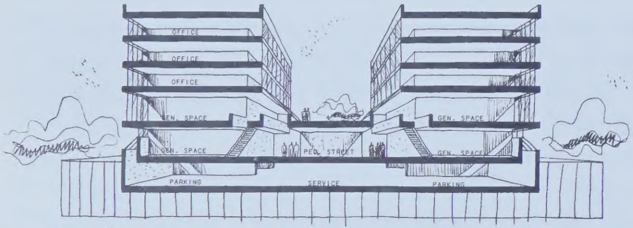
The pedestrian streets are not conceived as tunnels or
corridors. They are conceived as multipurpose spaces
of life and service, of activity and privacy, where infor-
mal meetings can occur, where students and faculty
alike may find a **place** outside of the classroom. There
are both historical and contemporary precedents for
this concept of street. Examples of this are the many
5 European arcades, the most notable being the Burl-
ington Arcade in London, England (Fig. 1) and the
malls in North American shopping centres. Unlike
these examples, however, the university's pedestrian
street system will have views of the outside, and be
well lit with natural light, as the Galleria (Fig. 3)
is in Milan.

A sense of place and identity with a particular aspect
of the university is, for many students and faculty,
missing on the campus. While it is not presumed that
the provision of adequate lounge, sitting, eating,
meeting, study and private non-academic space, or the
arrangement of space can solve all of the problems
facing the mega or multiversity today, they can, by
accommodating non-academic and social needs, in
some measure prevent a sense of alienation. It can be
6 argued in this context that the provision of non-
academic space is as essential to the success of the
university as is the provision of computer hardware or
laboratory space. Students and faculty do not live and
learn by lectures alone. The long range development
plan has made provision, in the design of the street
system, for such non-academic space (drwg. G.4).
These spaces are of two kinds — the non-residential
kind associated with academic space, such as study or
eating place, and housing.

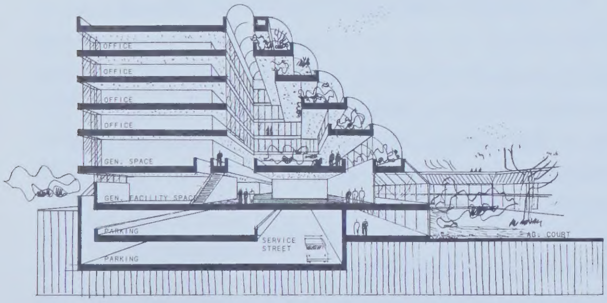
Just as there is a logical progression from automobile to parking garage to academic street to main pedestrian street in the general movement system, so is there a logical sequence of spaces related to the pedestrian street. The main pedestrian street contains ser-



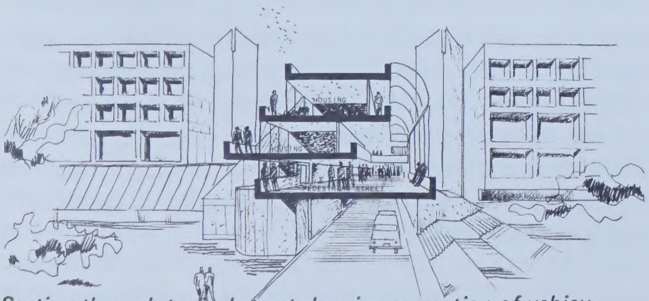
Section. Typical academic building showing the integration of future expansion.



Section. Typical academic building. General space such as centrally scheduled classrooms and accessible from the pedestrian street and located no more than three floors either above or below this level. Private offices and other spaces are located above the general use spaces.



Demonstration section through the Faculty of Agriculture. Greenhouses form an appropriate galleria over the street, integrating the street and an academic building.



Section through typical street showing separation of vehicular and pedestrian traffic, with housing over. On one side are general use spaces, or space for food services or concessions. Lounges may adjoin the pedestrian street with large windows on the other side.

vices and spaces of general use, and adjacent to them are those heavily used facilities such as large lecture theatres. Next would be departments which have affinities with departments in other faculties, and furthest, and most insulated from the pedestrian street might be spaces most particular to the faculty itself, faculty offices and other spaces of a private nature. Both privacy and community are catered for.

Above the main pedestrian streets is another form of private space — housing. The housing may assume many forms, from towers to low clusters. Access to the housing, as access to private spaces within faculties, is via the pedestrian street. As the faculties' general spaces are associated with the pedestrian streets, so the ancilliary, and generally used services that housing may require, are also associated with the pedestrian streets. It is here that commercial-type facilities and food services might appropriately be housed. It therefore becomes possible to achieve academic, social and physical linkages with the pedestrian street system, where all become users and beneficiaries of the amenities it provides.

(4) Open space system.

At present much of the open space of the university is covered with surface parking, service roads and service areas. The central green space is the only structured open space the university now possesses, in addition to the playing fields used for physical education. A few other pleasant open spaces exist — east of the old Arts building, south of the Rutherford Library, and along 89th Ave.

The long range development plan is increasing the coverage of land by buildings from 15 to 34%. Part of this increased coverage is in the form of parking structures, which, by parking cars on many levels, reduces the surface of land to be covered by cars. It is also intended that the roofs of these structures will be used for athletic facilities, such as tennis courts or ice rinks, thus further intensifying the use of campus land.

Besides the reduction in the areas of surface parking, the amount and length of the service roads have been reduced as well: (compare drwgs. **D.3** and **G.10**). Thus while the building coverage of the campus has increased from 15 to 34%, the amount of usable space is also increased.

Open space should not be seen as residual space, as it is in effect at present. It requires designing or structuring much as interior space does, so that it becomes appropriately usable, even if the use is merely for the enhancement of a view, or relief from building congestion. The placement of buildings within the open space remaining on the campus is therefore of great importance: the sum of the areas around a building after it is constructed does not necessarily add up to an equivalent amount of useful open space: a room divided by a wall does not leave two halves of the whole, each subdivision being somewhat less than half the total, as the new wall brings added spatial constraints.

The open space within the greater campus area ot the long range development plan is more structured and more defined than at present. However, access to the large and less cultivated open space of the riverbank is gained by the phasing out of Saskatchewan Drive between 116th and 112th Sts. The university thus has more appropriate and useful open space adjacent to each building complex, and as a contrast to these more tightly structured spaces within the campus proper, direct connection to the open riverbank system.

(5) Community Context.

There are perhaps three ways in which the university can contribute to the welfare of the community — by the expertise of its personnel, by allowing the community to use its services and facilities as a resource, such as libraries or theatres, and by the way in which it arranges its physical plant in relation to its surroundings.

The Health Science Centre will clearly offer a service of the first type. Programs of research carried by the Faculty of Agriculture are another example of this service. The opportunities offered to industry in the form of applied research are yet another instance of such a service.

Whether social service is a valid function of the university is a question being hotly debated within the university community. Although some deplore involvement as a threat to academic objectivity, others view service -oriented programs as stimulating additions to traditional curricula. The latter group contends that such programs are not simply coin for entry into the kingdom of heaven, but act as laboratories that test and contribute knowledge — real world research bringing early warning signals of educational gaps that occur in times of rapid change. The Cox Commission report "Crisis at Columbia" in a chapter concerning the role of the university, moreover, states that at least some branches of universities are attracting to their faculties a new type of academician — the man of action as well as intellect whose interest is not the pursuit of truth for its own sake, but to shape society from a vantage point, combining academic security, intellectual weapons and political action. These changing attitudes naturally warrant the most careful consideration.

The development of a Performing Arts Centre, and the expansion of the many forms of continuing education, provides the second way in which the university can become a community resource. The long range development plan has thus placed such forms of facility in such a way as to afford a high degree of accessibility to the public: the Performing Arts Centre has a direct link to the future mass rail transit and bus stops, and is provided with adequate parking facilities. The Students' Union building is in similar fashion provided with easy access from public transit, automobile and parking: the first parking structure on the campus is connected to the Students' Union building with a climate protected walkway. As the plan becomes implemented, so will the mechanics of access be achieved.

It is in the third type of involvement with the non-academic community, the arrangement of the physical plant, that the most difficult problems often occur.

Some universities' accelerated expansion programs have antagonized communities of which they are a part. This has led to an increasingly militant and organized response on the part of the community. It is the community which has often had to point out the way in which the university, which purports to serve society, has been delinquent in its community role. Perhaps we should see the urban university as analogue of the land grant college that sprang up under various auspices towards the end of the 19th century.

An urban university is not simply an institution that happens to be engulfed by the city, but a particular kind of place which is still a part of its social, economic and physical environment: universities make substantial contributions to the economy; their physical presence is not missed; their students and staff have social interrelationships with the community — housing and shopping not being the least among these. To view the university, therefore, as a separate enclave is to display a nostalgia for the rural campus which is at odds with reality.

Hence the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible — those that are displaced will become tenants of university apartment buildings, and the public will use the recreational facilities. Seattle University is locating a physical education and convocation centre two blocks from the campus proper. This, in addition, is within an urban renewal area. At Temple University, the Medical School is organizing neighbourhood health centres. To revitalize a declining Harvard Square, Harvard University erected Holyoke Centre, housing Harvard's health centre, administration and departmental office space, classrooms, seminar space and two floors of commercial space.

Northwestern University is building a graduate student housing project in the surrounding community in an attempt to provide a link between the university and the community.

The University of Pennsylvania is providing financial encouragement to its faculty and staff to purchase and rehabilitate housing in the university area of Philadelphia in an effort to arrest the decay in the surrounding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community interests to sponsor and finance a comprehensive community development plan covering land use, traffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

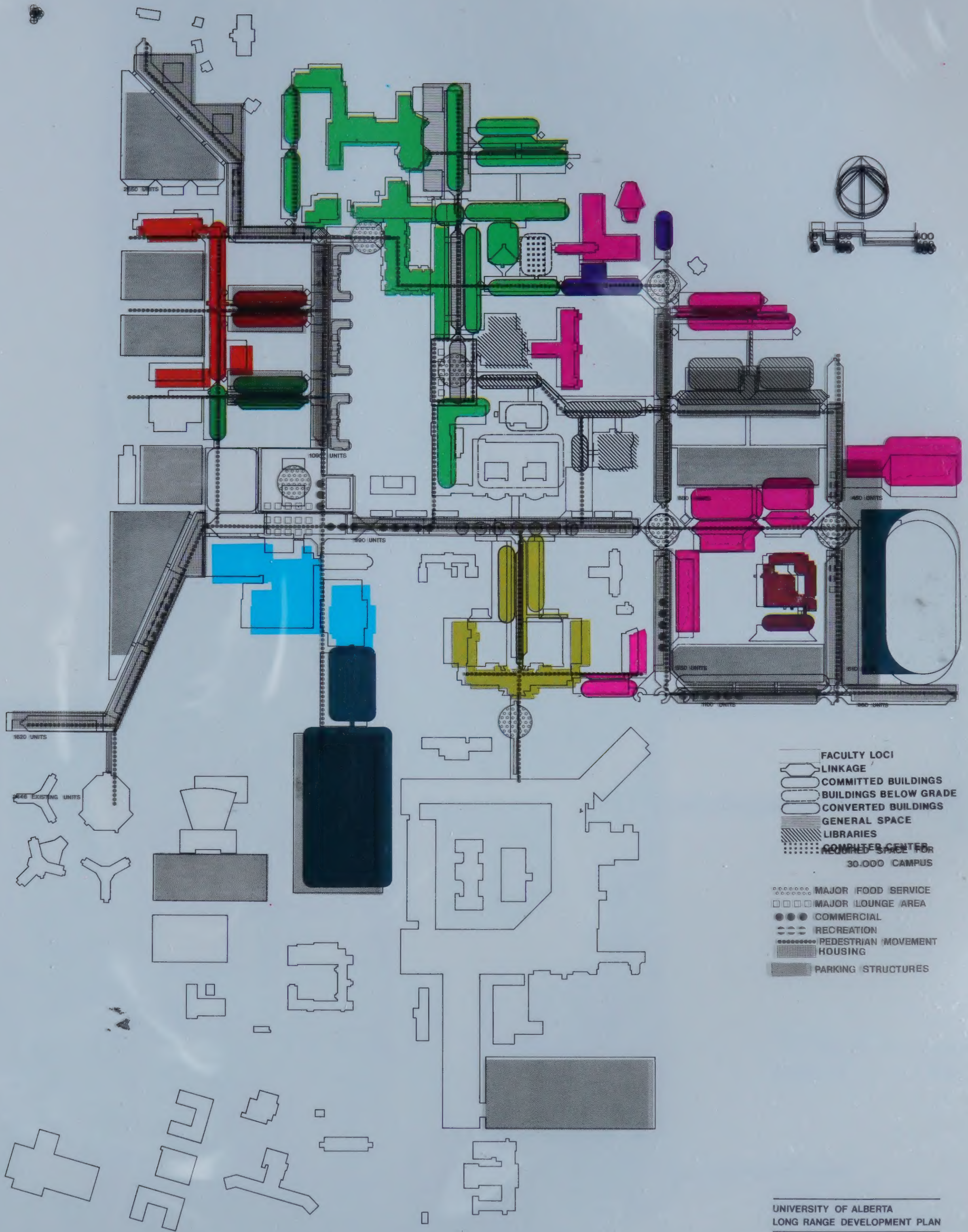
(6) Adjacent land use.

Beyond the satisfactions to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the university and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

Green	- Science and Agriculture
Orange	- Engineering
Blue	- Physical Education
Yellow	- Education
Magenta	- Arts
Grey Diagonal	- Library and Science
Purple	- Business
Brown	- Law


2550 UNITS
1095 UNITS
990 UNITS
880 UNITS
450 UNITS
850 UNITS
510 UNITS
1100 UNITS
860 UNITS
1620 UNITS
2446 EXISTING UNITS
FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER
REQUIRED SPACE FOR 30.000 CAMPUS
MAJOR FOOD SERVICE
MAJOR LOUNGE AREA
COMMERCIAL
RECREATION
PEDESTRIAN MOVEMENT
HOUSING
PARKING STRUCTURES

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1 ·G·2

·G·4
·G·5
·G·6

·G·7

stantial contributions to the economy; their physical presence is not missed; their students and staff have social interrelationships with the community — housing and shopping not being the least among these. To view the university, therefore, as a separate enclave is to display a nostalgia for the rural campus which is at odds with reality.

Hence the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible — those that are displaced will become tenants of university apartment buildings, and the public will use the recreational facilities. Seattle University is locating a physical education and convocation centre two blocks from the campus proper. This, in addition, is within an urban renewal area. At Temple University, the Medical School is organizing neighbourhood health centres. To revitalize a declining Harvard Square, Harvard University erected Holyoke Centre, housing Harvard's health centre, administration and departmental office space, classrooms, seminar space and two floors of commercial space.

Northwestern University is building a graduate student housing project in the surrounding community in an attempt to provide a link between the university and the community.

The University of Pennsylvania is providing financial encouragement to its faculty and staff to purchase and rehabilitate housing in the university area of Philadelphia in an effort to arrest the decay in the surrounding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community interests to sponsor and finance a comprehensive community development plan covering land use, traffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

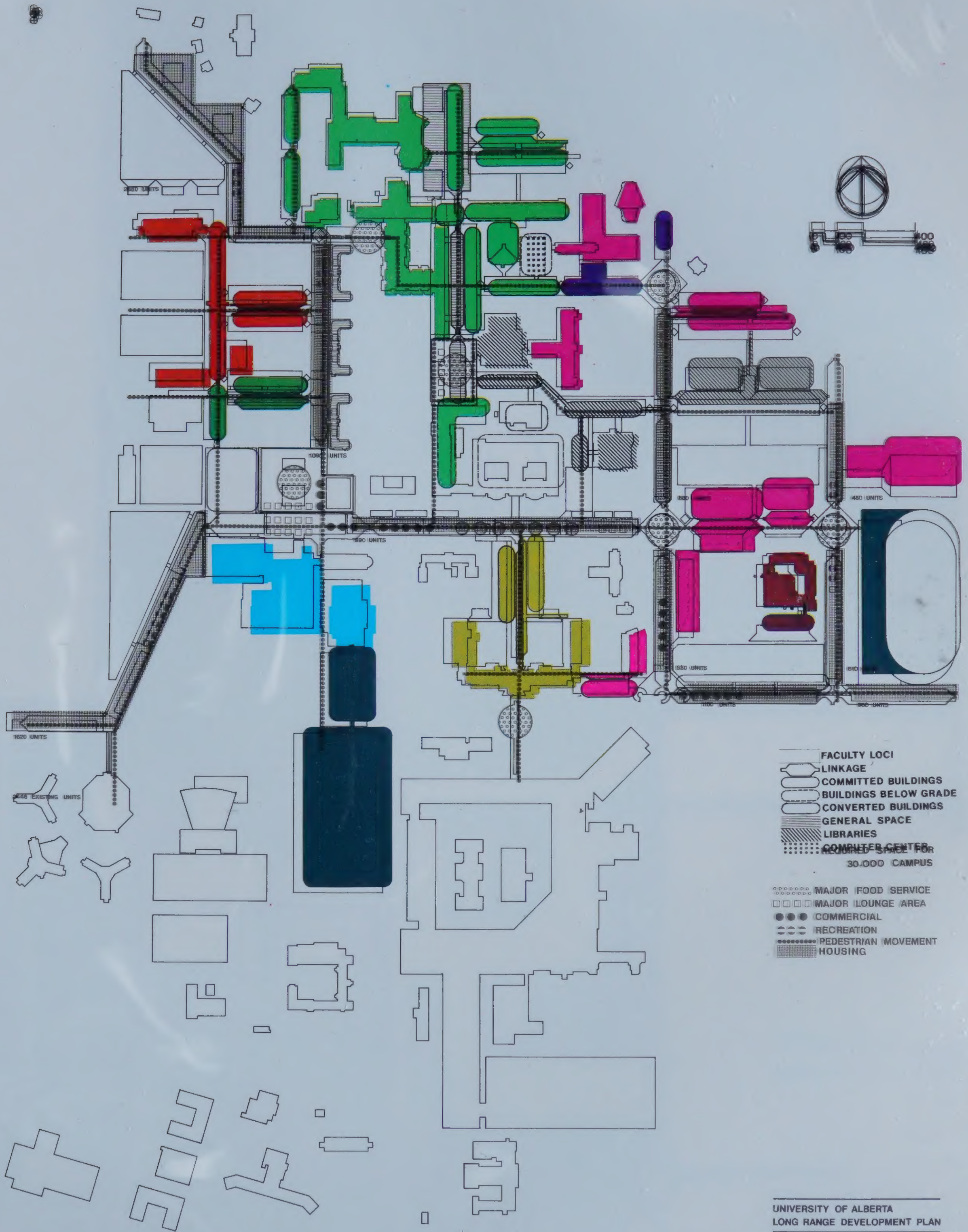
(6) Adjacent land use.

Beyond the satisfactions to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the university and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

Green	-	Science and Agriculture
Orange	-	Engineering
Blue	-	Physical Education
Yellow	-	Education
Magenta	-	Arts
Grey Diagonal	-	Library and Science
Purple	-	Business
Brown	-	Law


0
100
400
2850 UNITS
1095 UNITS
990 UNITS
880
450 UNITS
550 UNITS
610 UNITS
1100 UNITS
860 UNITS
1620 UNITS
2446 EXISTING UNITS
FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER
REQUIRED SPACE FOR 30,000 CAMPUS
MAJOR FOOD SERVICE
MAJOR LOUNGE AREA
COMMERCIAL
RECREATION
PEDESTRIAN MOVEMENT
HOUSING

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1 ·G·2
·G·4
·G·5
·G·6

substantial contributions to the economy; their physical presence is not missed; their students and staff have social interrelationships with the community — housing and shopping not being the least among these. To view the university, therefore, as a separate enclave is to display a nostalgia for the rural campus which is at odds with reality.

Hence the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible — those that are displaced will be the tenants of university apartment buildings, and the public will use the recreational facilities. Seattle University is locating a physical education and convocation centre two blocks from the campus proper. This, in addition, is within an urban renewal area. At Temple University, the Medical School is organizing neighbourhood health centres. To revitalize a declining Harvard Square, Harvard University erected Holyoke Centre, housing Harvard's health centre, administration and departmental office space, classrooms, seminar space and two floors of commercial space.

Northwestern University is building a graduate student housing project in the surrounding community in an attempt to provide a link between the university and the community.

The University of Pennsylvania is providing financial encouragement to its faculty and staff to purchase and rehabilitate housing in the university area of Philadelphia in an effort to arrest the decay in the surrounding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community interests to sponsor and finance a comprehensive community development plan covering land use, traffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

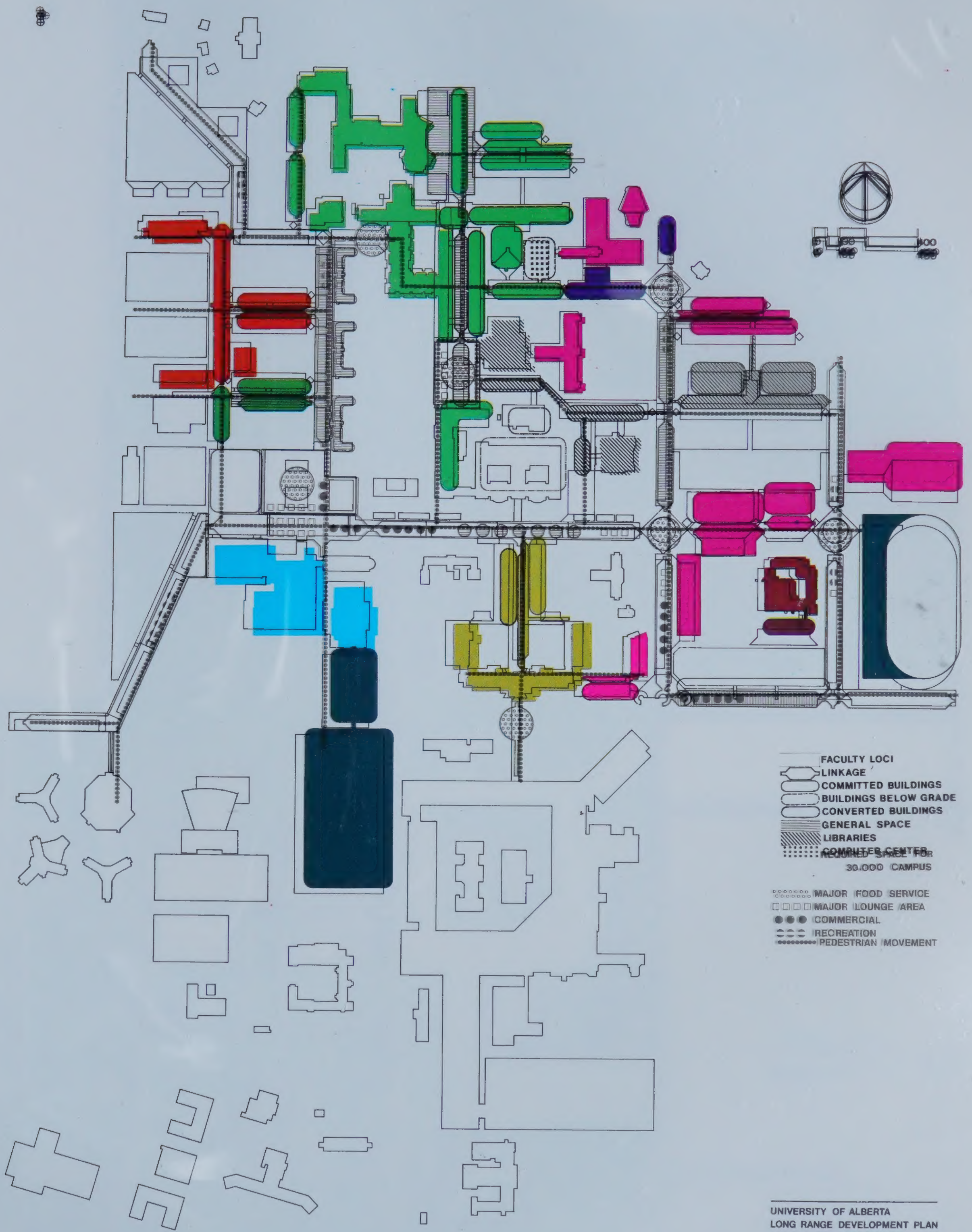
(6) Adjacent land use.

Beyond the satisfactions to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the university and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

Green	- Science and Agriculture
Orange	- Engineering
Blue	- Physical Education
Yellow	- Education
Magenta	- Arts
Grey Diagonal	- Library and Science
Purple	- Business
Brown	- Law


FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER
REQUIRED SPACE FOR 30.000 CAMPUS
MAJOR FOOD SERVICE
MAJOR LOUNGE AREA
COMMERCIAL
RECREATION
PEDESTRIAN MOVEMENT
400

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1 G·3
·G·4
·G·5

substantial contributions to the economy; their physical presence is not missed; their students and staff have social interrelationships with the community — housing and shopping not being the least among these. To view the university, therefore, as a separate enclave is to display a nostalgia for the rural campus which is at odds with reality.

Hence the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible — those that are displaced will become tenants of university apartment buildings, and the public will use the recreational facilities. Seattle University is locating a physical education and convocation centre two blocks from the campus proper. This, in addition, is within an urban renewal area. At Temple University, the Medical School is organizing neighbourhood health centres. To revitalize a declining Harvard Square, Harvard University erected Holyoke Centre, housing Harvard's health centre, administration and departmental office space, classrooms, seminar space and two floors of commercial space.

Northwestern University is building a graduate student housing project in the surrounding community in an attempt to provide a link between the university and the community.

The University of Pennsylvania is providing financial encouragement to its faculty and staff to purchase and rehabilitate housing in the university area of Philadelphia in an effort to arrest the decay in the surrounding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community interests to sponsor and finance a comprehensive community development plan covering land use, traffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

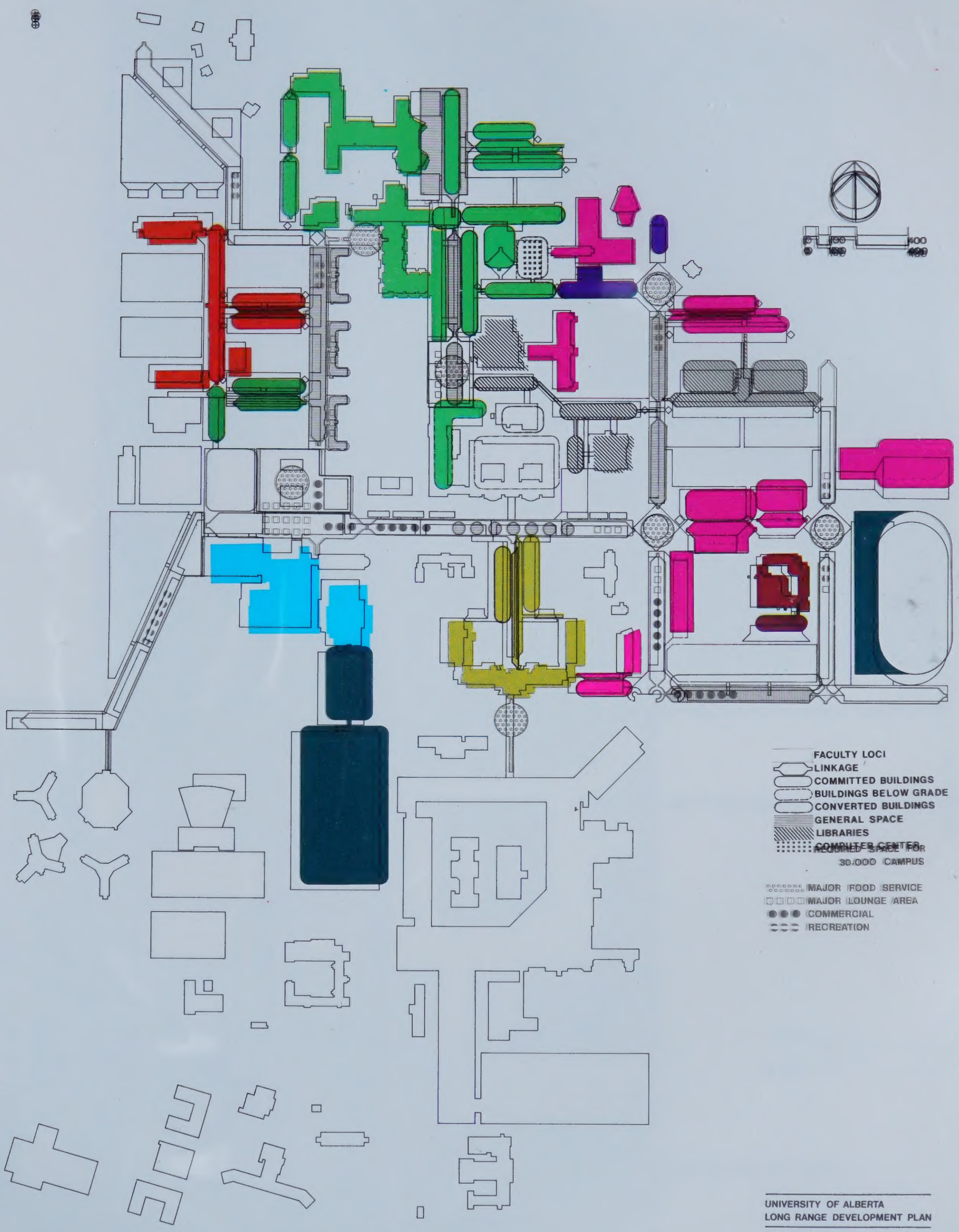
(6) Adjacent land use.

Beyond the satisfactions to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the university and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

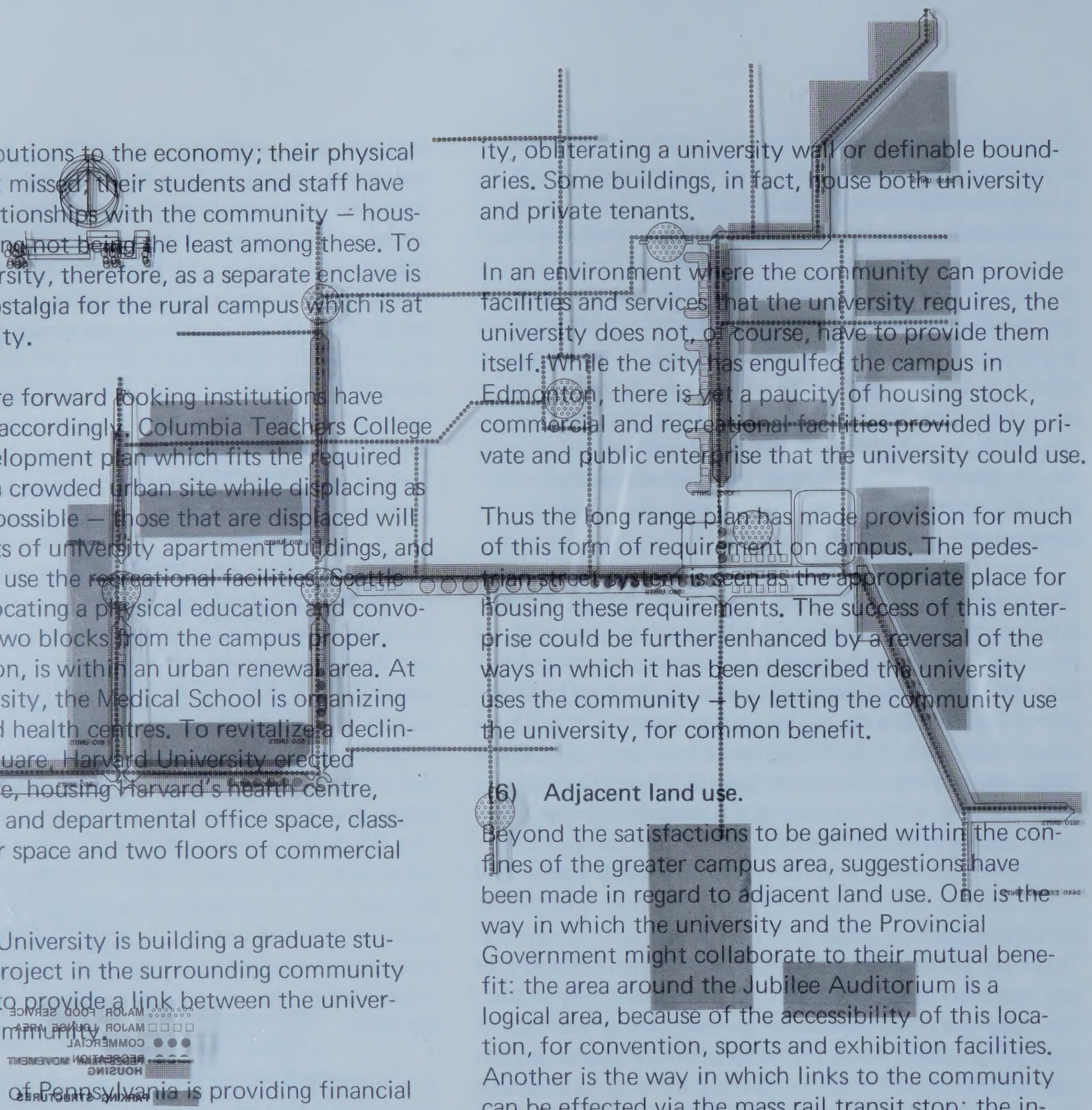
Green - Science and Agriculture
Orange - Engineering
Blue - Physical Education
Yellow - Education
Magenta - Arts
Grey Diagonal - Library and Science
Purple - Business
Brown - Law


0
100
400
FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER
REQUIRED SPACE FOR
30,000 CAMPUS
MAJOR FOOD SERVICE
MAJOR LOUNGE AREA
COMMERCIAL
RECREATION

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1 G·2
G·4



antial contributions to the economy; their physical esence is not missed; their students and staff have cial interrelationships with the community — housing and shopping not being the least among these. To w the university, therefore, as a separate enclave is display a nostalgia for the rural campus which is at ds with reality.

lence the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible — those that are displaced will become tenants of university apartment buildings, and the public will use the recreational facilities. Seattle Jniversity is locating a physical education and convo- tion centre two blocks from the campus proper. s, in addition, is within an urban renewal area. At nple University, the Medical School is organizing hbourhood health centres. To revitalize a declin- arvard Square, Harvard University erected oke Centre, housing Harvard's health centre, nistration and departmental office space, class- s, seminar space and two floors of commercial e.

N thwestern University is building a graduate stu- housing project in the surrounding community in attempt to provide a link between the univer- nd the community.

Th University of Pennsylvania is providing financial en uragement to its faculty and staff to purchase an ehabilitate housing in the university area of Ph delphia in an effort to arrest the decay in the su unding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community te ests to sponsor and finance a comprehensive mmunity development plan covering land use, t ffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

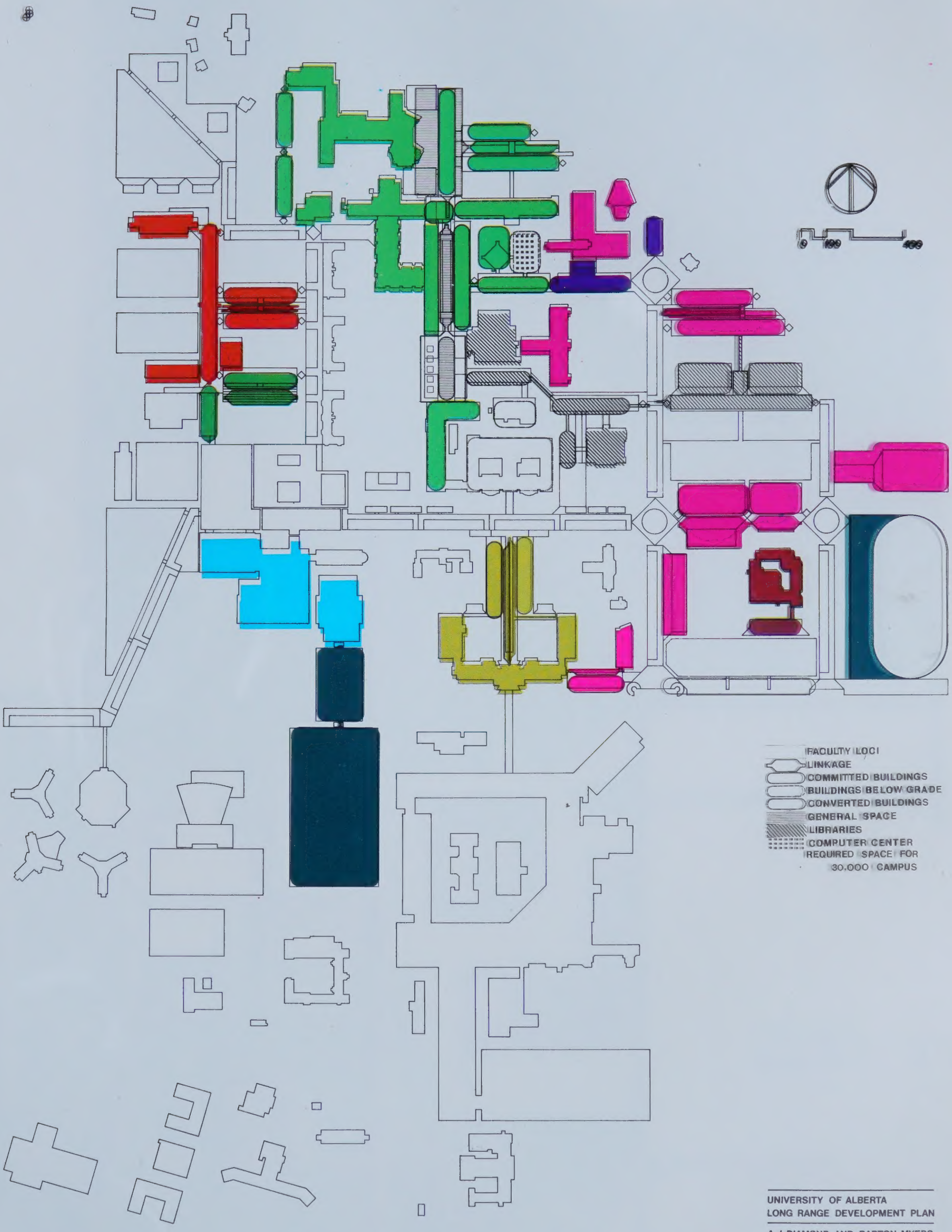
(6) Adjacent land use.

Beyond the satisfactions to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the university and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

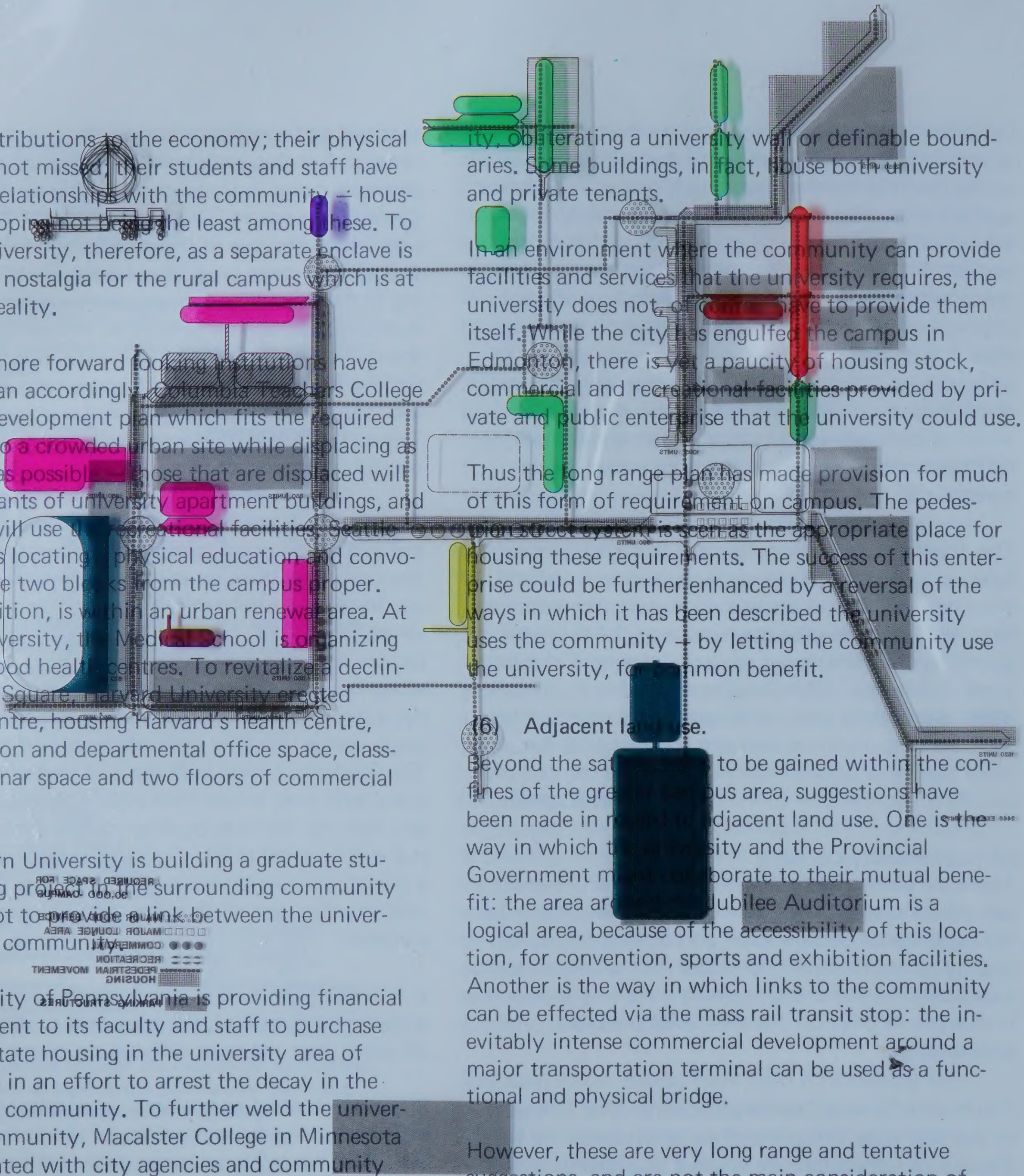
Green	Science and Agriculture
Orange	Engineering
Blue	Physical Education
Yellow	Education
Magenta	Arts
Grey Diagonal	Library and Science
Purple	Business
Brown	Law


0
100
400
FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER
REQUIRED SPACE FOR
30,000 CAMPUS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1G·2
·G·3



antial contributions to the economy; their physical esence is not missed; their students and staff have ial interrelationships with the community — hous- and shopping not being the least among these. To w the university, therefore, as a separate enclave is display a nostalgia for the rural campus which is at ds with reality.

Hence the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible — those that are displaced will become tenants of university apartment buildings, and the public will use the recreational facilities. Seattle University is locating a physical education and convocation centre two blocks from the campus proper. This, in addition, is within an urban renewal area. At Temple University, the Medical School is organizing neighbourhood health centres. To revitalize a declining Harvard Square, Harvard University erected Holyoke Centre, housing Harvard's health centre, administration and departmental office space, classrooms, seminar space and two floors of commercial space.

Northwestern University is building a graduate student housing project in the surrounding community in an attempt to provide a link between the university and the community.

The University of Pennsylvania is providing financial encouragement to its faculty and staff to purchase and rehabilitate housing in the university area of Philadelphia in an effort to arrest the decay in the surrounding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community interests to sponsor and finance a comprehensive community development plan covering land use, traffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

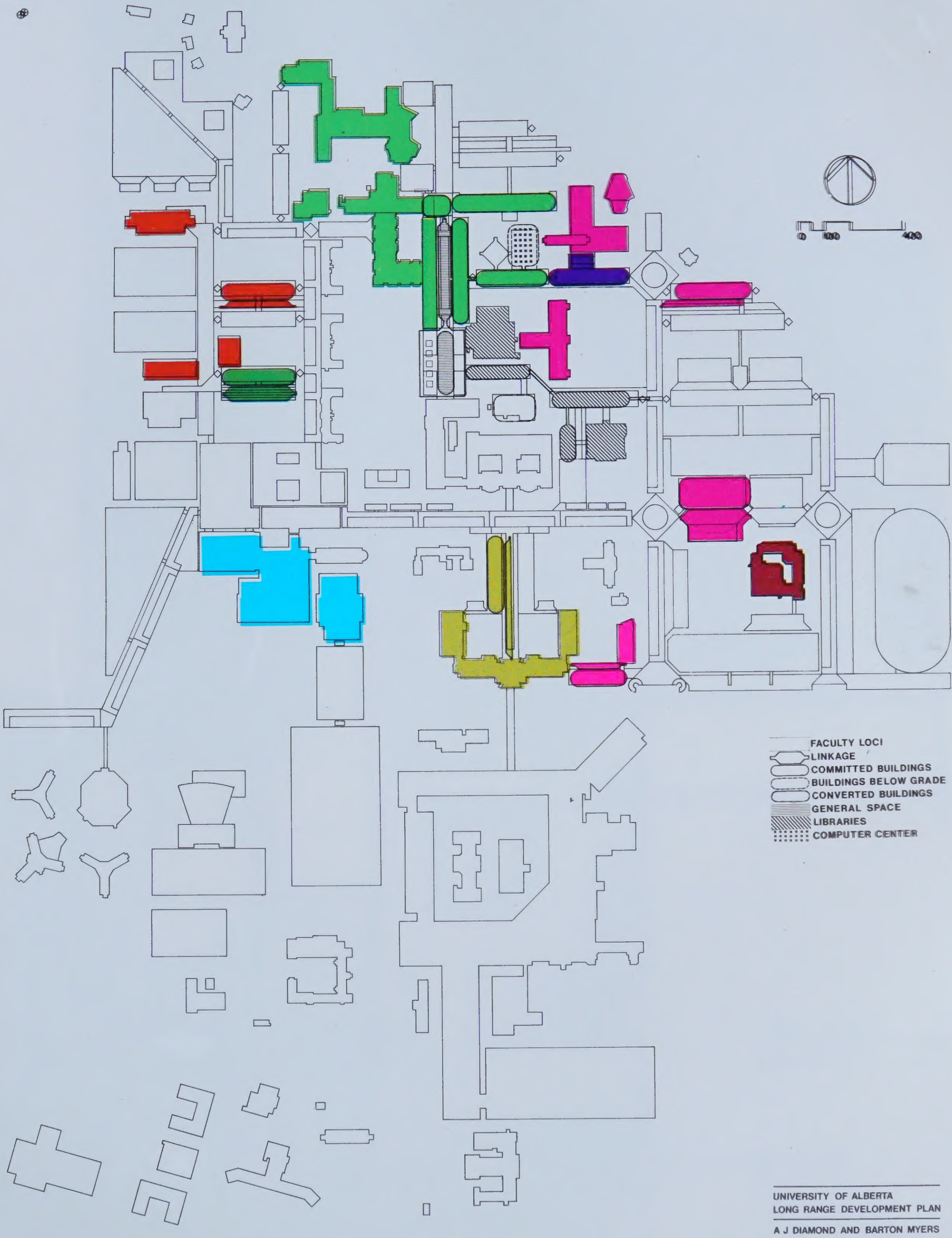
(6) Adjacent land use.

Beyond the satisfaction to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the university and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

Green - Science and Agriculture
Orange - Engineering
Blue - Physical Education
Yellow - Education
Magenta - Arts
Grey Diagonal - Library and Science
Purple - Business
Brown - Law

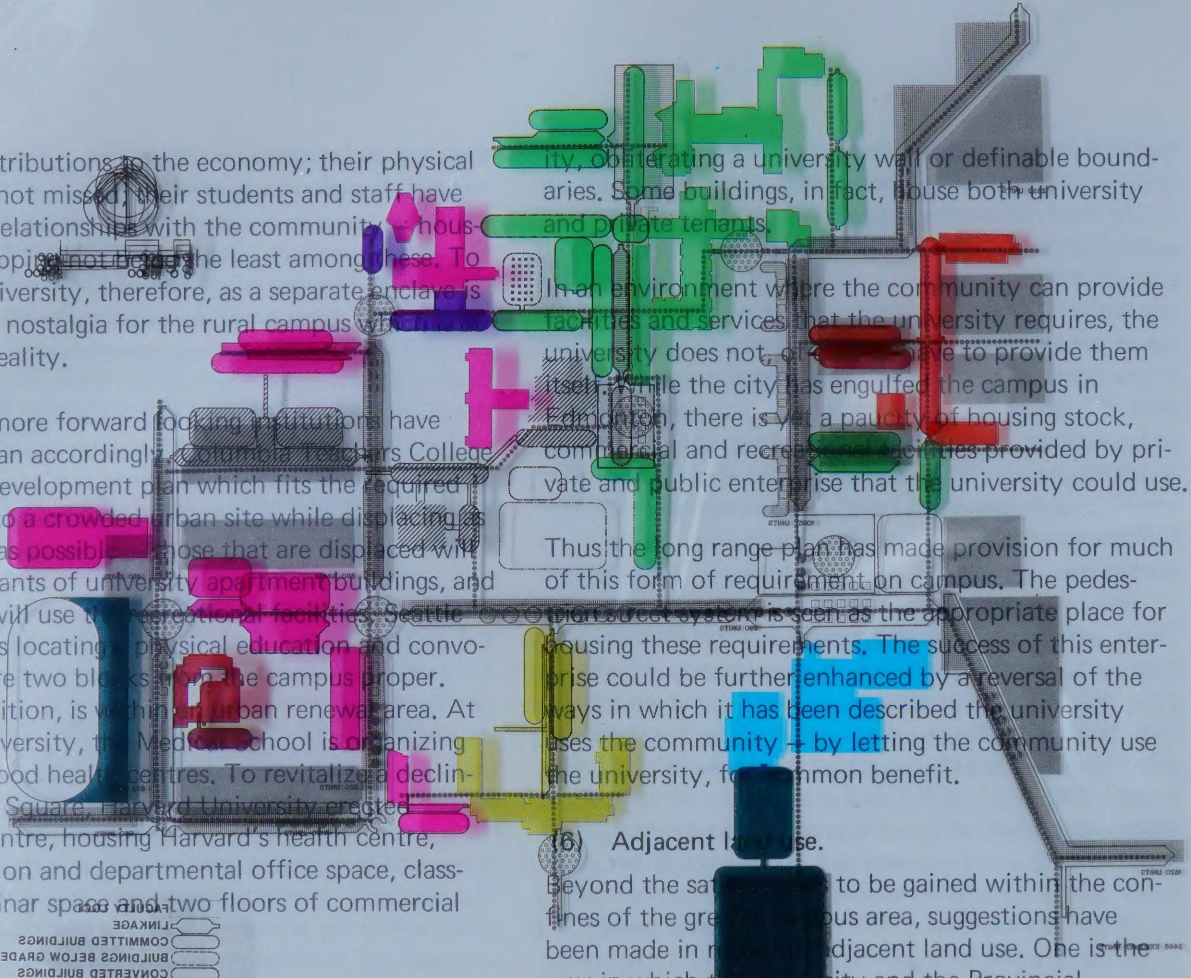


0 100 400
FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1 ~~G·2~~



antial contributions to the economy; their physical presence is not missed; their students and staff have social interrelationships with the community — housing and shopping not being the least among these. To view the university, therefore, as a separate enclave is to display a nostalgia for the rural campus which is at odds with reality.

Recently the more forward looking institutions have begun to plan accordingly. Columbia Teachers College has a new development plan which fits the required facilities into a crowded urban site while displacing as few homes as possible; those that are displaced will become tenants of university apartment buildings, and the public will use the recreational facilities. Seattle University is locating a physical education and convocation centre two blocks from the campus proper. This, in addition, is within an urban renewal area. At Temple University, the Medical School is organizing neighbourhood health centres. To revitalize a declining Harvard Square, Harvard University erected Holyoke Centre, housing Harvard's health centre, administration and departmental office space, classroom, seminar space and two floors of commercial space.

Northwestern University is building a graduate student housing project in the surrounding community, in an attempt to provide a link between the university and the community.

The University of Pennsylvania is providing financial encouragement to its faculty and staff to purchase and rehabilitate housing in the university area of Philadelphia in an effort to arrest the decay in the surrounding community. To further weld the university and community, Macalster College in Minnesota has co-operated with city agencies and community interests to sponsor and finance a comprehensive community development plan covering land use, traffic, pedestrian circulation, utilities, parking and recreation to create a better environment for itself and its neighbours.

Urban universities are often surrounded by many forms of housing, commercial and recreation facilities used by the university. In this way the university has a functional interdependence with the surrounding community. In some instances the physical expansion of the campus has even leap-frogged into the community, obliterating a university wall or definable boundaries. Some buildings, in fact, house both university and private tenants.

In an environment where the community can provide facilities and services that the university requires, the university does not, of course, have to provide them itself. While the city has engulfed the campus in Edmonton, there is yet a paucity of housing stock, commercial and recreational facilities provided by private and public enterprise that the university could use.

Thus the long range plan has made provision for much of this form of requirement on campus. The pedestrian street system is seen as the appropriate place for housing these requirements. The success of this enterprise could be further enhanced by a reversal of the ways in which it has been described the university uses the community — by letting the community use the university, for common benefit.

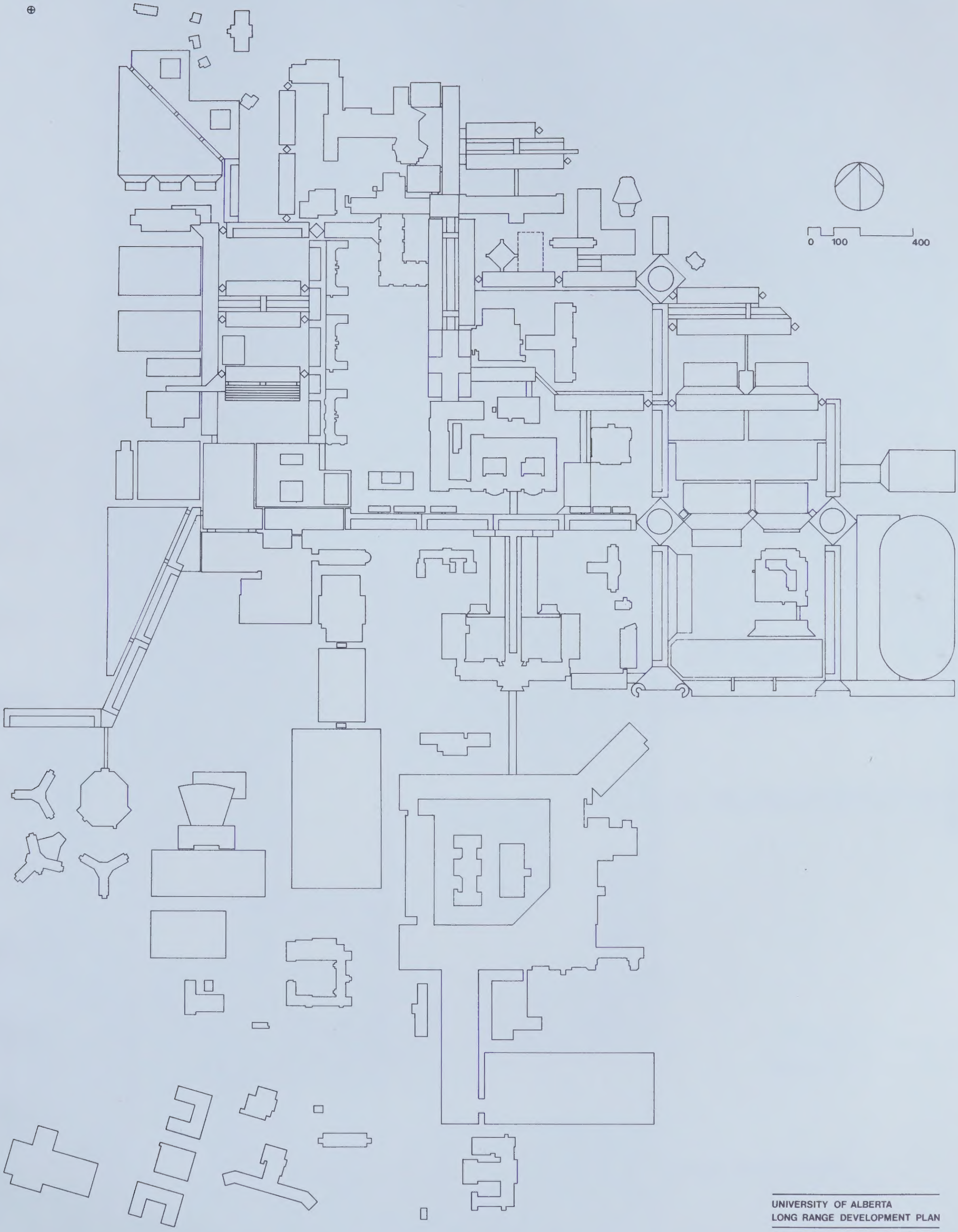
(6) Adjacent land use.

Beyond the sat[illegible] to be gained within the confines of the greater campus area, suggestions have been made in regard to adjacent land use. One is the way in which the University and the Provincial Government might collaborate to their mutual benefit: the area around the Jubilee Auditorium is a logical area, because of the accessibility of this location, for convention, sports and exhibition facilities. Another is the way in which links to the community can be effected via the mass rail transit stop: the inevitably intense commercial development around a major transportation terminal can be used as a functional and physical bridge.

However, these are very long range and tentative suggestions, and are not the main consideration of this report.

Drawings: Color Code "G" Series

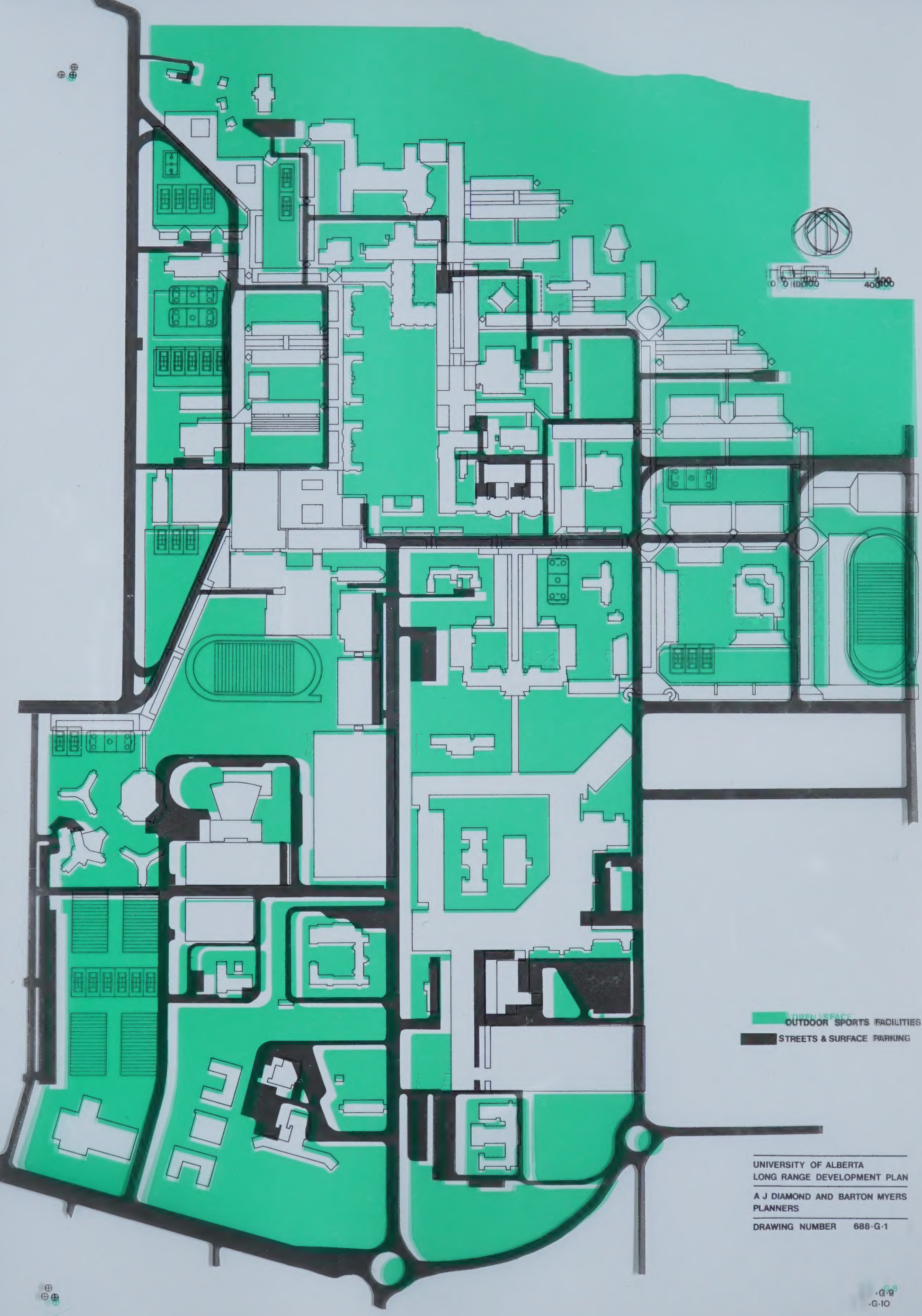
Green	- Science and Agriculture
Orange	- Engineering
Blue	- Physical Education
Yellow	- Education
Magenta	- Arts
Grey Diagonal	- Library and Science
Purple	- Business
Brown	- Law



UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1



🟩 OPEN SPACE

🟩 OUTDOOR SPORTS FACILITIES

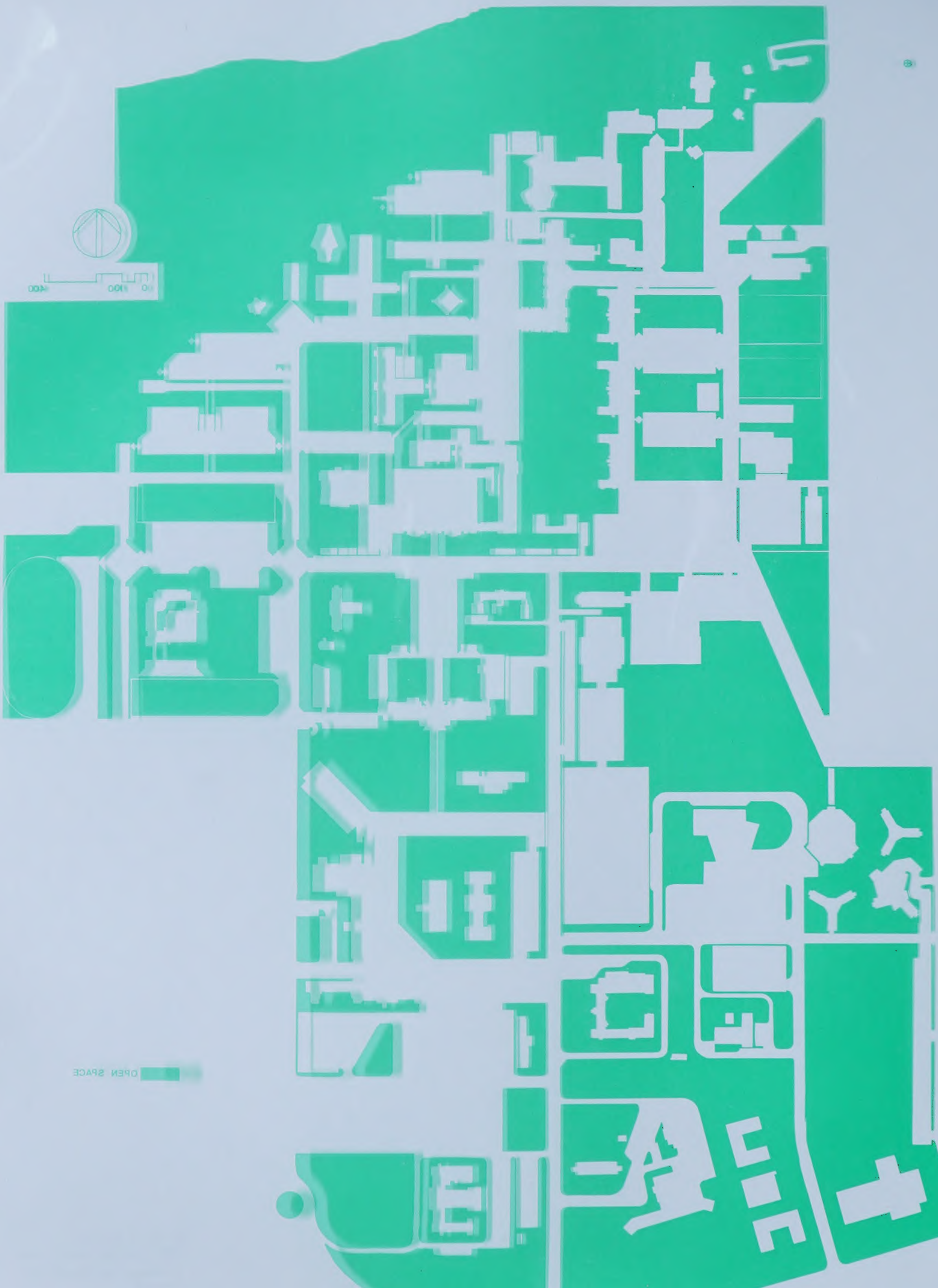
■ STREETS & SURFACE PARKING

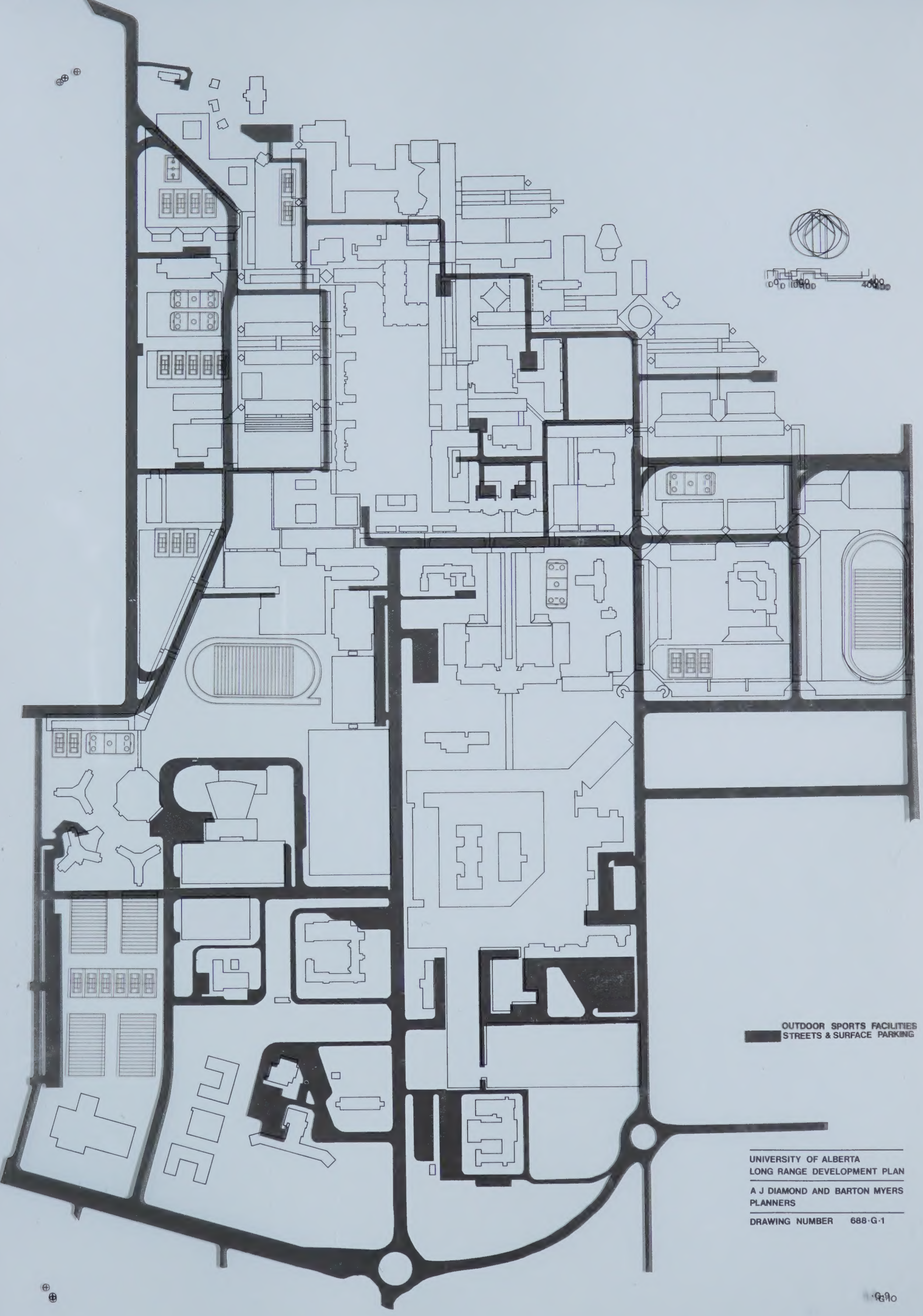
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1

G·8
·G·9
·G·10


0 100 400
OPEN SPACE

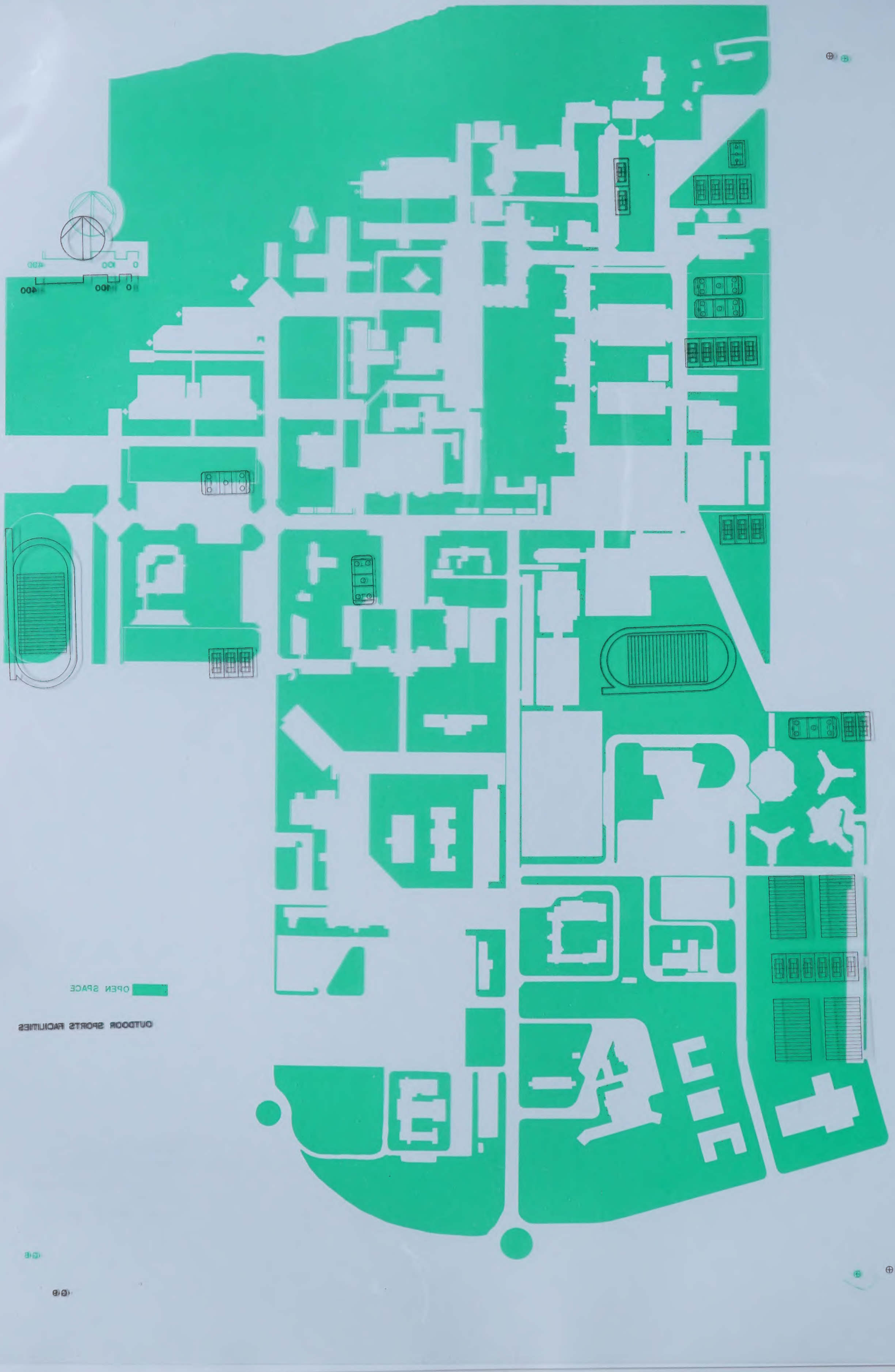

0
100
400
OUTDOOR SPORTS FACILITIES
STREETS & SURFACE PARKING

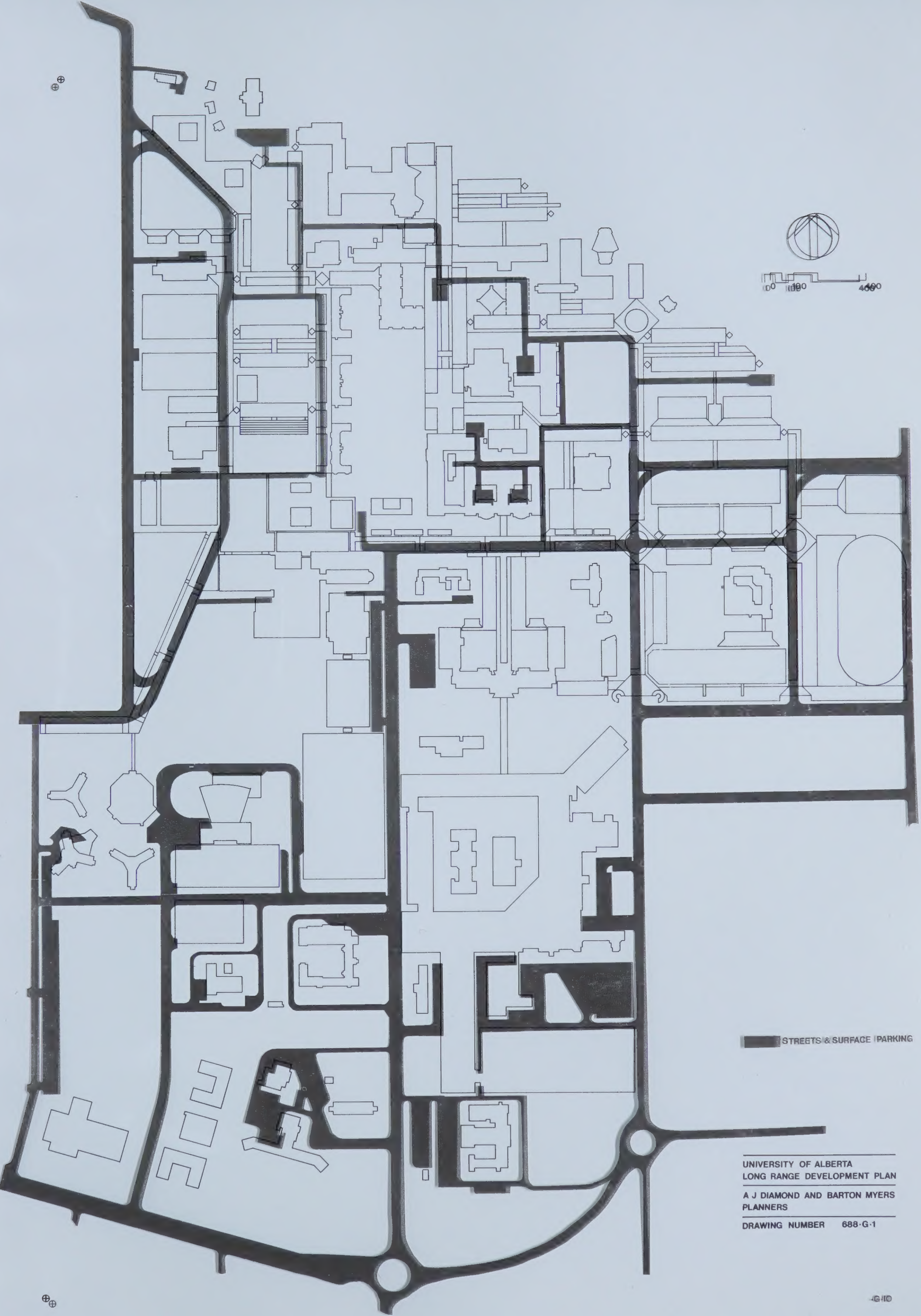
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1

·G90


400
100
0

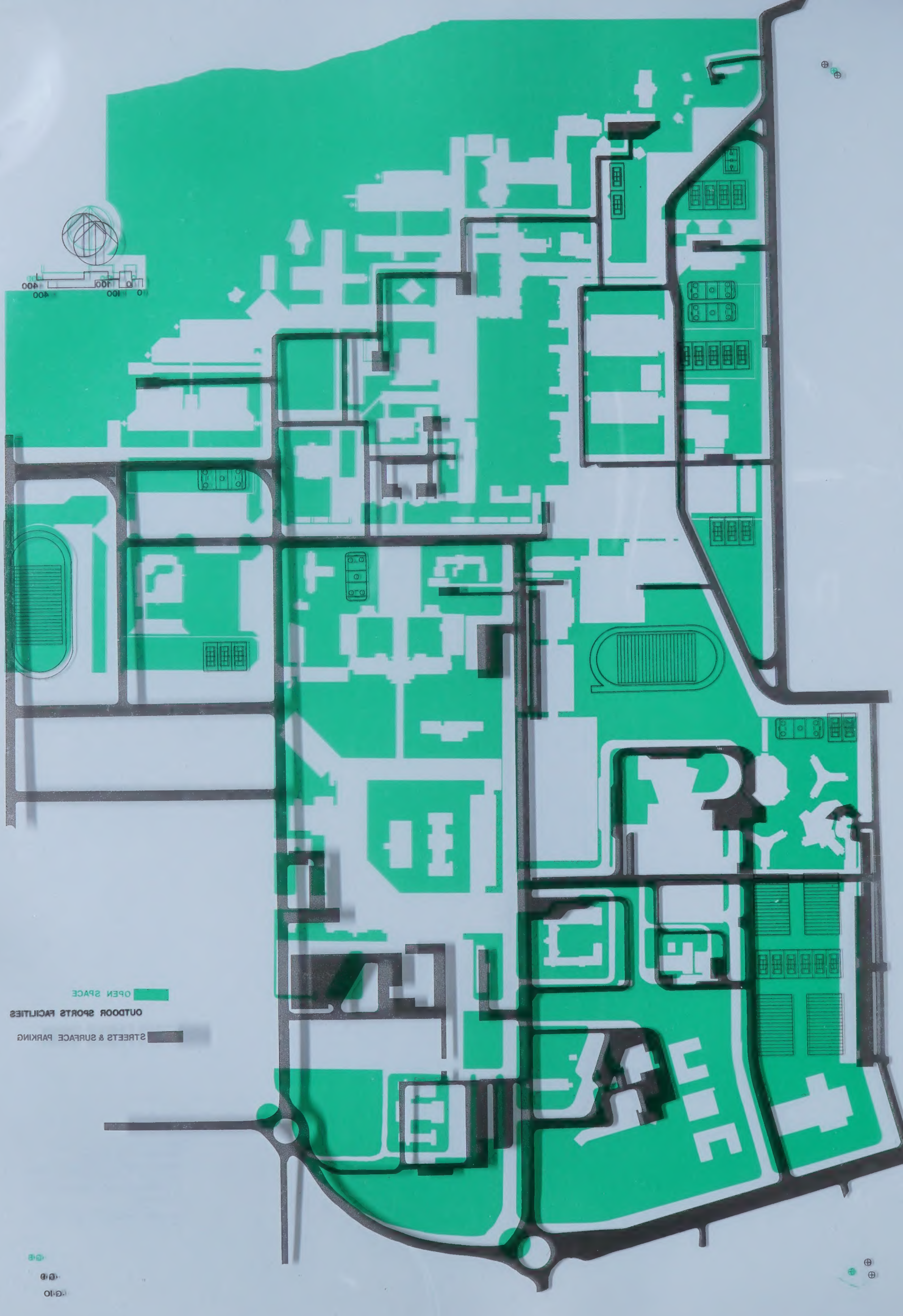

0
100
400
STREETS & SURFACE PARKING

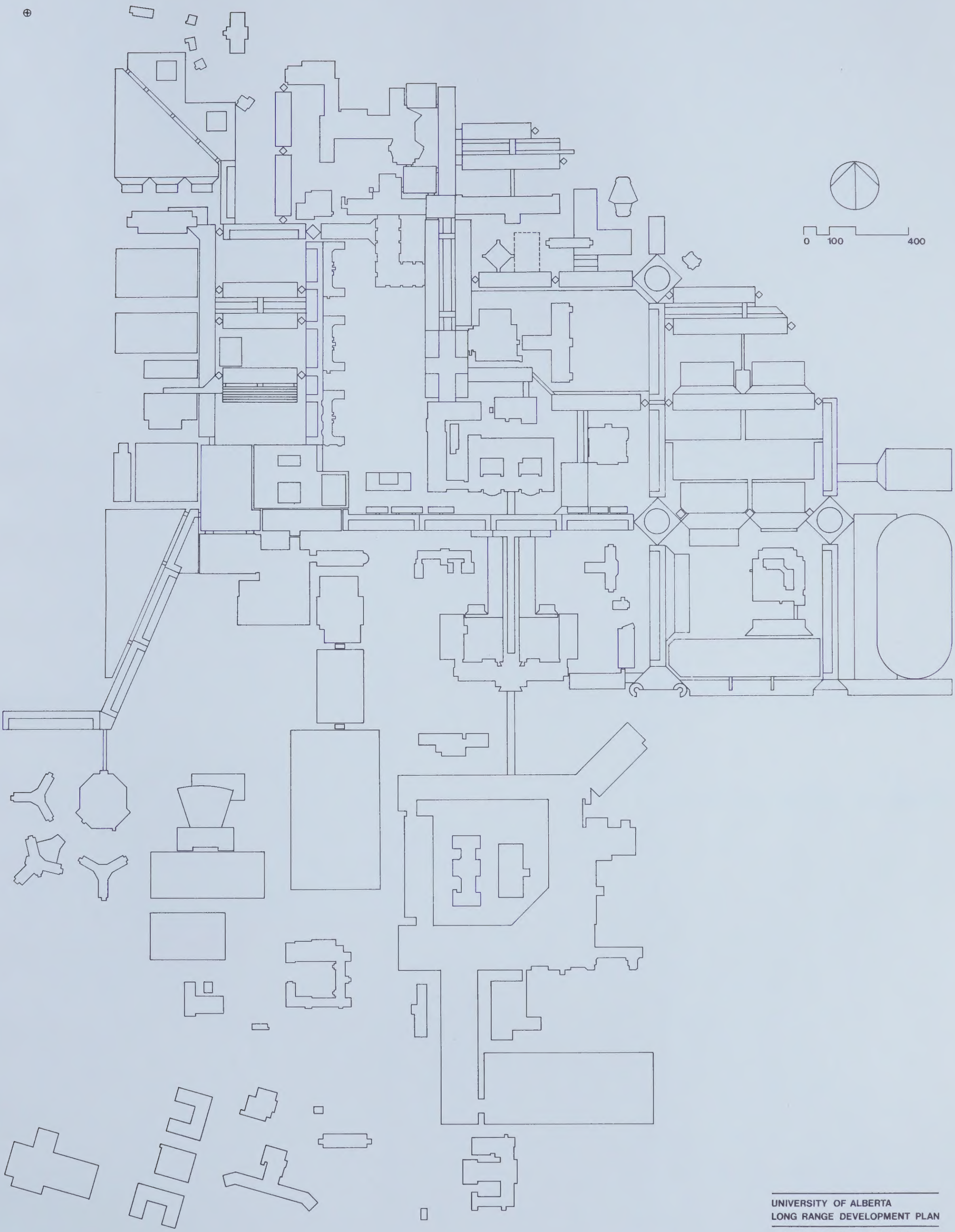
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1

G·10

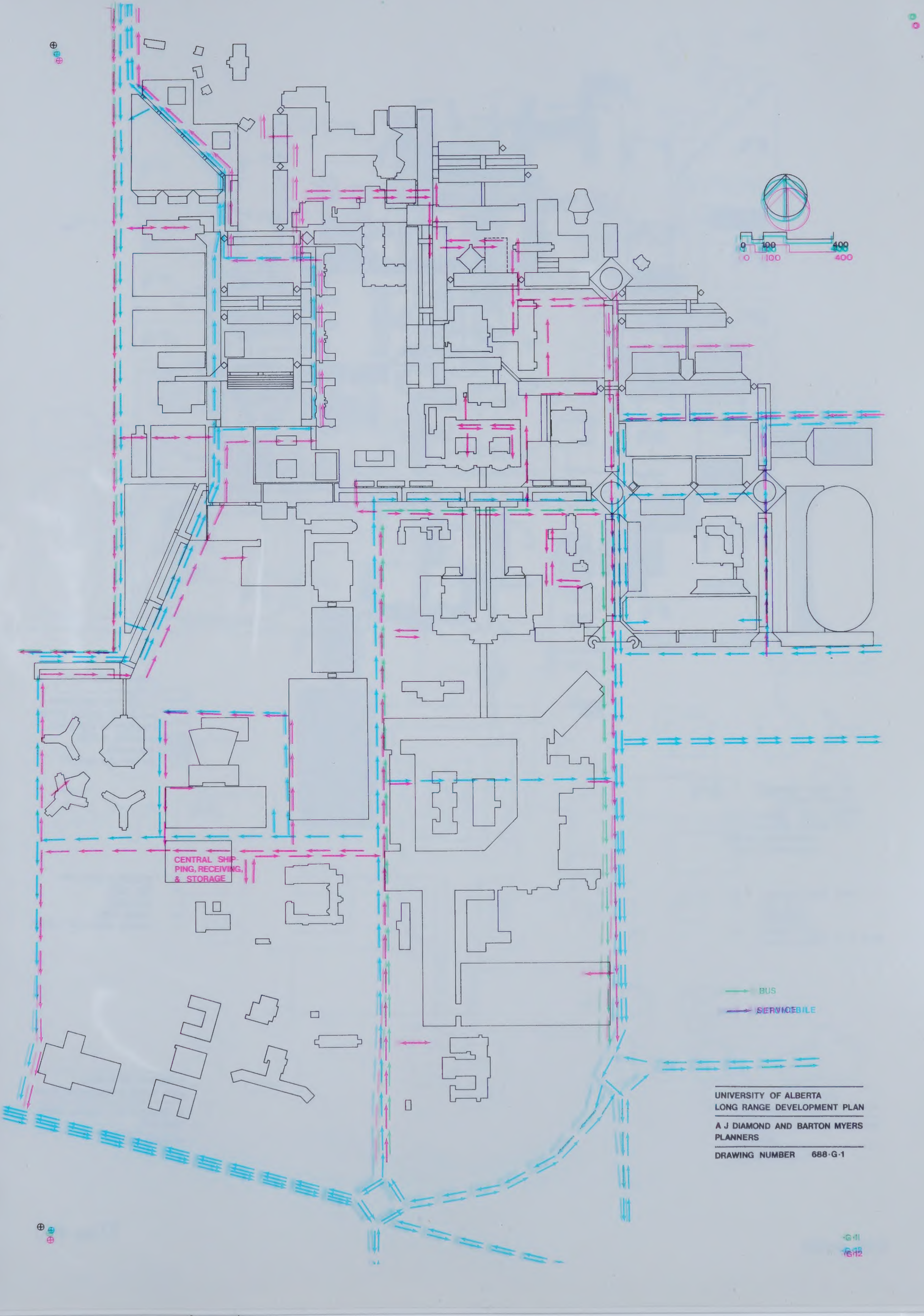

0
100
400
🟩 OPEN SPACE
OUTDOOR SPORTS FACILITIES
▬ STREETS & SURFACE PARKING



UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

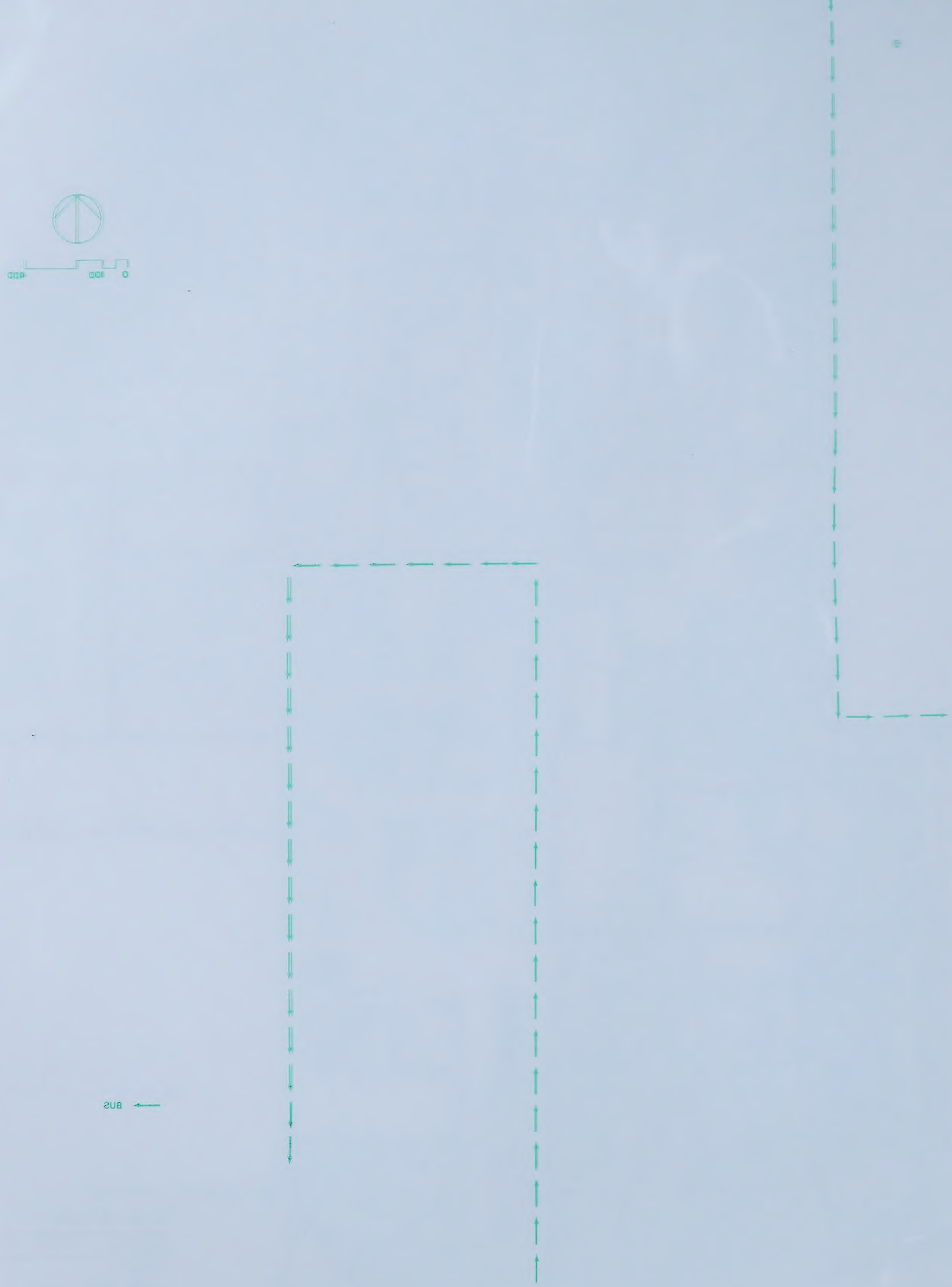
DRAWING NUMBER 688·G·1


CENTRAL SHIPPING, RECEIVING, & STORAGE
0
100
400
BUS
SERVICE
AUTOMOBILE
·G·11
·G·13
·G·12

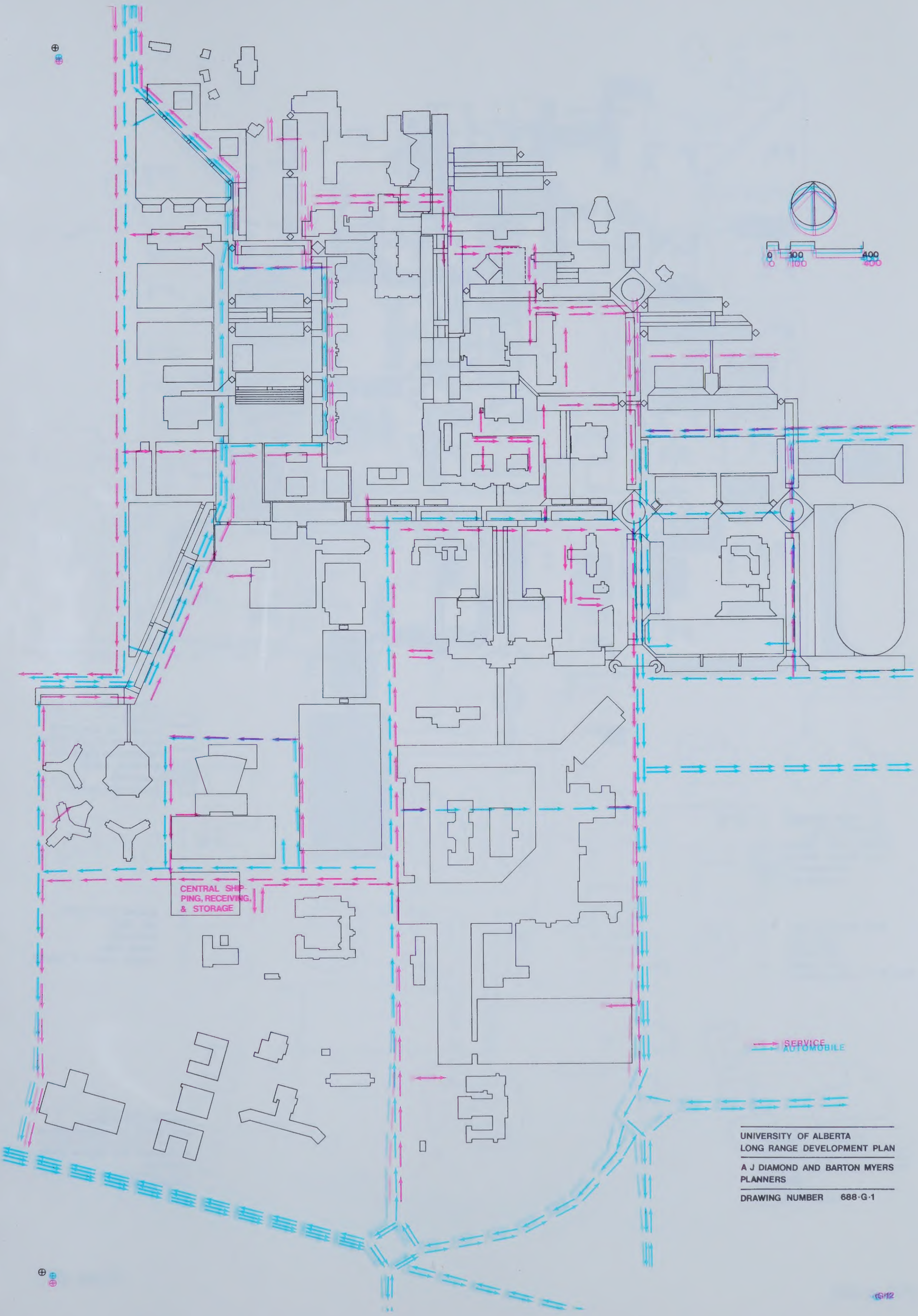
UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1


0
100
400
BUS

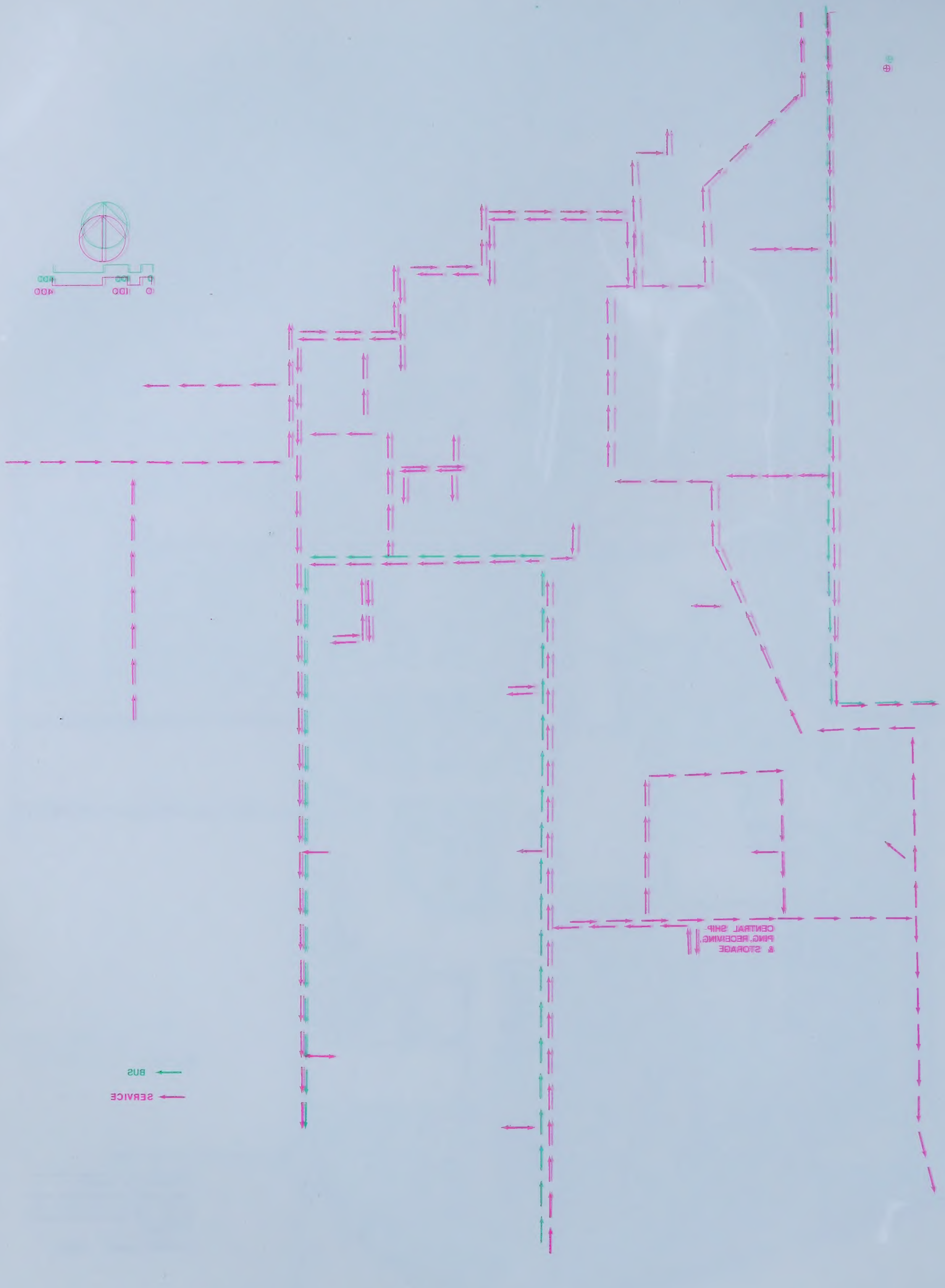
G-11

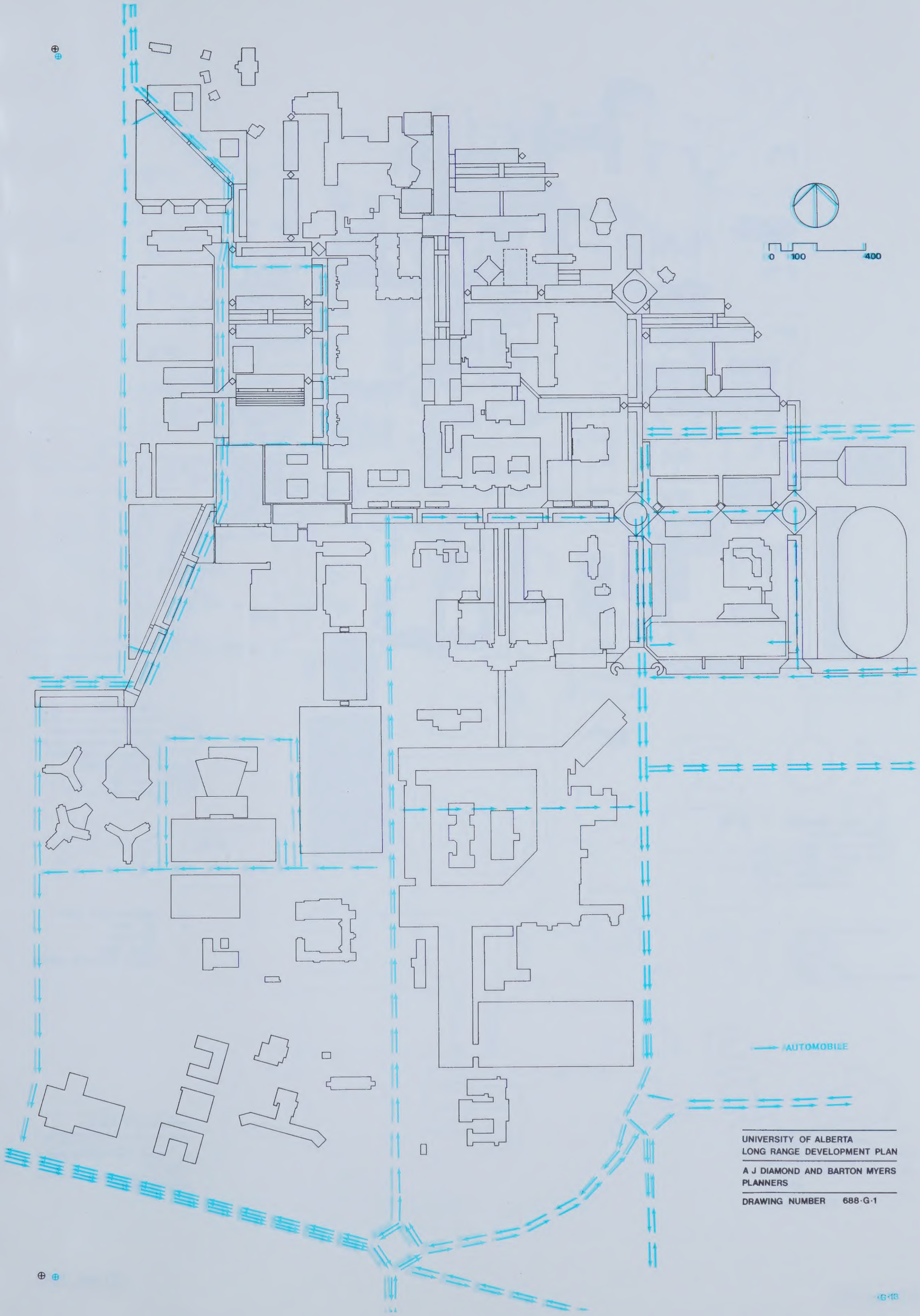

0
100
400
CENTRAL SHIPPING, RECEIVING, & STORAGE
SERVICE
AUTOMOBILE

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1

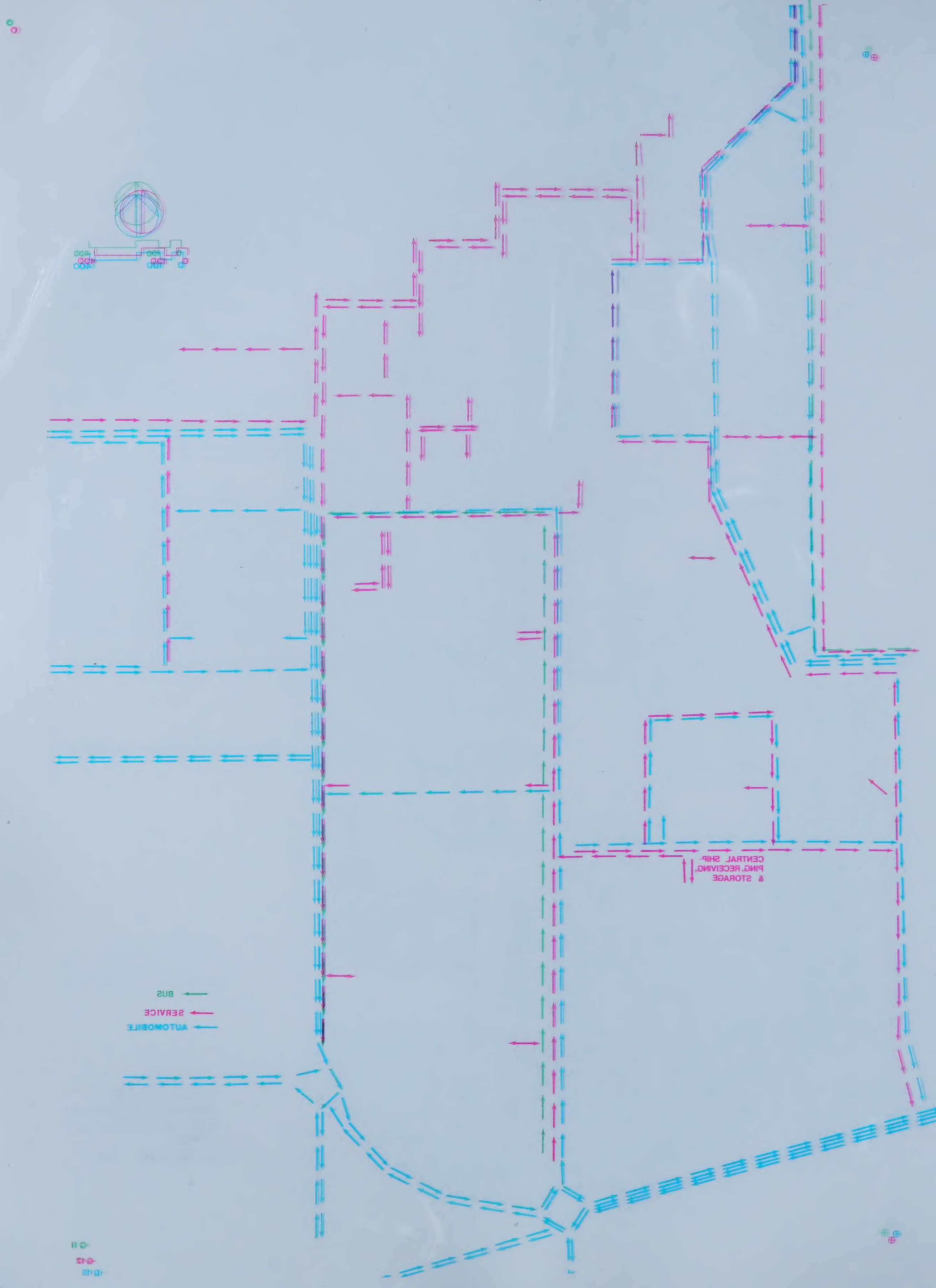

0
100
400
CENTRAL SHIPPING, RECEIVING & STORAGE
BUS
SERVICE

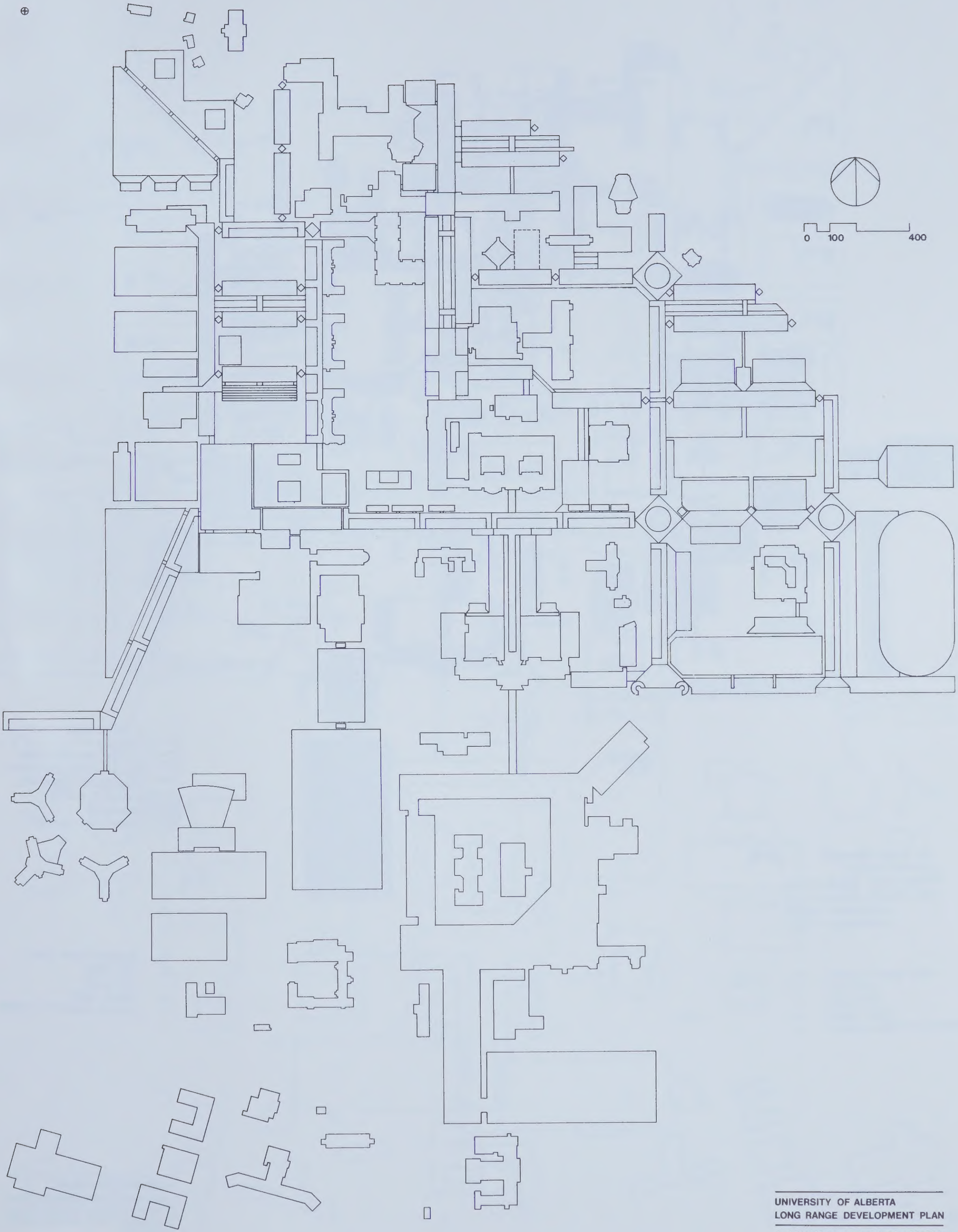

0
100
400
AUTOMOBILE

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1

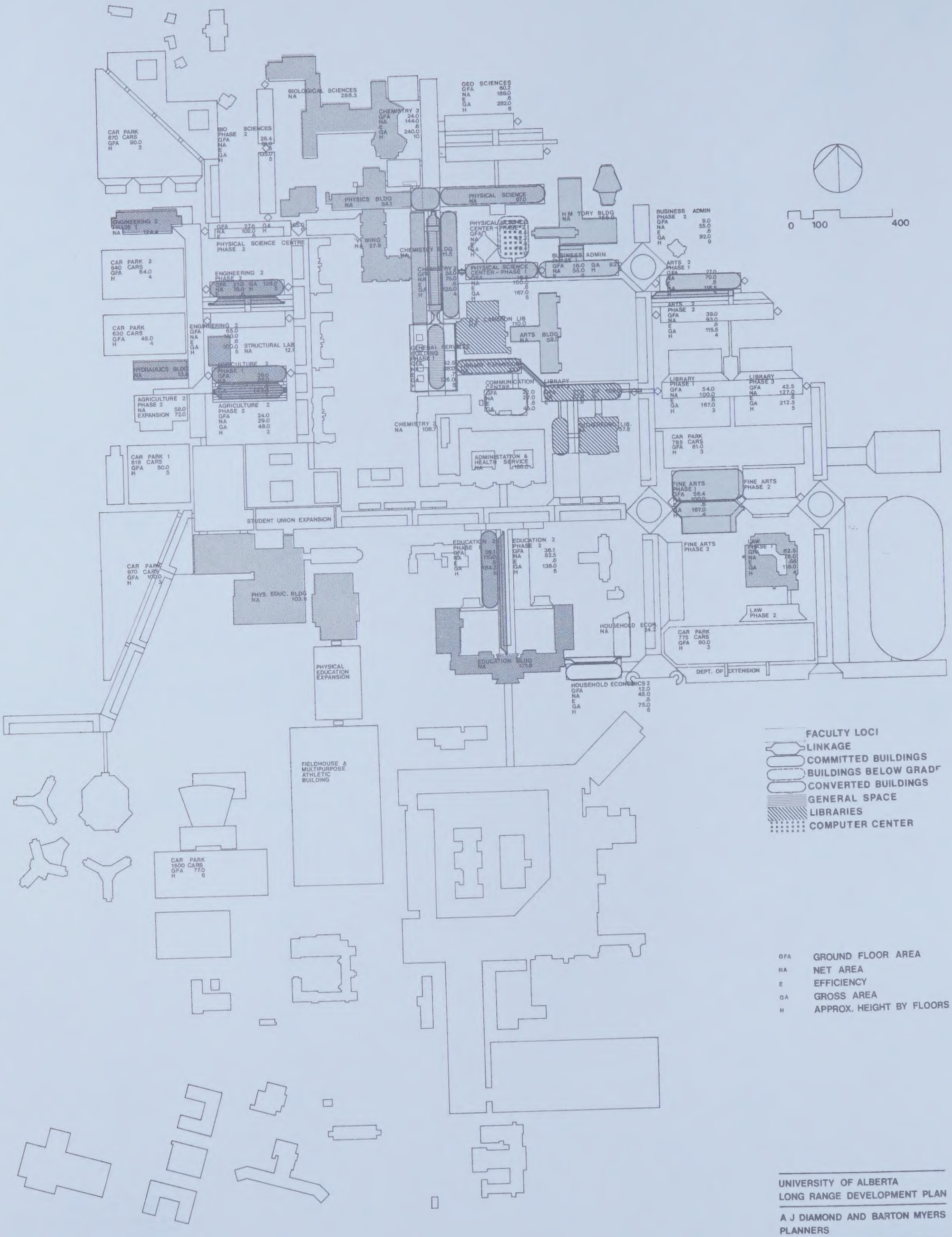

400
100
0
CENTRAL SHIPPING, RECEIVING, & STORAGE
BUS
SERVICE
AUTOMOBILE
G-11
G-12
G-13



UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER 688·G·1

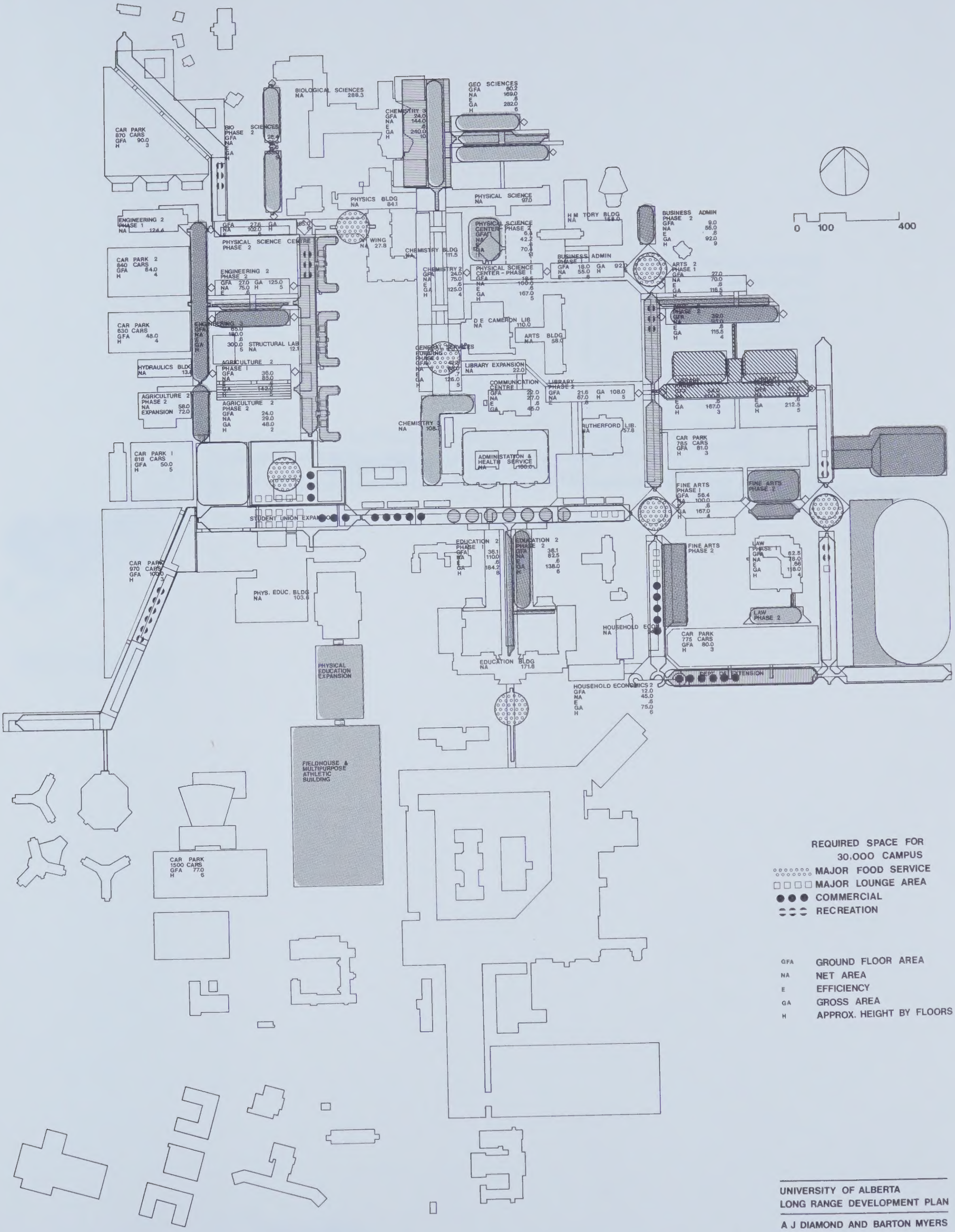

CAR PARK 870 CARS GFA 90.0 H 3
BIO SCIENCES PHASE 2 GFA 26.4 NA E GA 135.0 H 5
BIOLOGICAL SCIENCES NA 288.3
CHEMISTRY 3 GFA 24.0 NA 144.0 E .8 GA 240.0 H 10
GEO SCIENCES GFA 60.2 NA 169.0 E .6 GA 282.0 H 6
PHYSICS BLDG NA 84.1
PHYSICAL SCIENCE NA 97.0
H M TORY BLDG NA 158.0
BUSINESS ADMIN PHASE 2 GFA 9.0 NA 55.0 E .6 GA 92.0 H 9
ENGINEERING 2 PHASE 1 NA 174.4
GFA 27.6 NA 102.0 E .6 GA 165.0 H 6
PHYSICAL SCIENCE CENTRE PHASE 2
'V' WING NA 27.8
CHEMISTRY BLDG NA 111.5
PHYSICAL SCIENCE CENTER - PHASE 2
BUSINESS ADMIN PHASE 1 GFA 18.0 NA 55.0 E .6 GA 92.0 H 5
ARTS 2 PHASE 1 GFA 27.0 NA 70.0 E .6 GA 115.5 H 5
CAR PARK 2 840 CARS GFA 64.0 H 4
ENGINEERING 2 PHASE 2 GFA 27.0 NA 76.0 E .6 GA 126.0 H 5
CHEMISTRY 2 GFA 24.0 NA 75.0 E .6 GA 125.0 H 4
PHYSICAL SCIENCE CENTER - PHASE 1 GFA 18.5 NA 100.0 E .6 GA 167.0 H 5
ARTS 2 PHASE 2 GFA 39.0 NA 93.0 E .6 GA 115.5 H 4
CAR PARK 630 CARS GFA 48.0 H 4
ENGINEERING 3 GFA 65.0 NA 180.0 E .6 GA 300.0 H 5
STRUCTURAL LAB NA 12.1
C CAMERON LIB 110.0
ARTS BLDG NA 58.0
HYDRAULICS BLDG NA 13.8
AGRICULTURE 2 PHASE 1 GFA 36.0 NA 85.0
GENERAL SERVICES BUILDING PHASE 1 GFA 32.5 NA 58.0 E .7 GA 136.0 H 5
LIBRARY EXPANSION
COMMUNICATION CENTRE GFA 22.0 NA 27.0 E .6 GA 45.0
LIBRARY
LIBRARY PHASE 1 GFA 54.0 NA 100.0 E .6 GA 167.0 H 3
LIBRARY PHASE 3 GFA 42.5 NA 127.0 E .6 GA 212.5 H 5
AGRICULTURE 2 PHASE 2 NA 58.0 EXPANSION 72.0
AGRICULTURE 2 PHASE 2 GFA 24.0 NA 29.0 GA 48.0 H 2
CHEMISTRY 3 NA 108.7
RUTHERFORD LIB. 57.8
CAR PARK 785 CARS GFA 81.0 H 3
CAR PARK 1 818 CARS GFA 50.0 H 5
ADMINISTRATION & HEALTH SERVICE NA 166.0
FINE ARTS PHASE 1 GFA 56.4 NA 100.0 E .6 GA 167.0 H 4
FINE ARTS PHASE 2
STUDENT UNION EXPANSION
EDUCATION 2 PHASE 1 GFA 38.1 NA 110.0 E .6 GA 184.2 H 6
EDUCATION 2 PHASE 2 GFA 36.1 NA 82.5 E .6 GA 138.0 H 6
FINE ARTS PHASE 2
LAW PHASE 1 GFA 62.5 NA 78.0 E .66 GA 118.0 H 4
CAR PARK 970 CARS GFA 100.0 H 3
PHYS. EDUC. BLDG NA 103.6
LAW PHASE 2
HOUSEHOLD ECON. NA 24.2
CAR PARK 775 CARS GFA 80.0 H 3
EDUCATION BLDG NA 375.6
DEPT. OF EXTENSION
PHYSICAL EDUCATION EXPANSION
HOUSEHOLD ECONOMICS 2 GFA 12.0 NA 45.0 E .8 GA 75.0 H 6
FIELDHOUSE & MULTIPURPOSE ATHLETIC BUILDING
CAR PARK 1500 CARS GFA 77.0 H 6
0
100
400
FACULTY LOCI
LINKAGE
COMMITTED BUILDINGS
BUILDINGS BELOW GRADE
CONVERTED BUILDINGS
GENERAL SPACE
LIBRARIES
COMPUTER CENTER
GFA GROUND FLOOR AREA
NA NET AREA
E EFFICIENCY
GA GROSS AREA
H APPROX. HEIGHT BY FLOORS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER

(Diag. 8A)


CAR PARK 870 CARS GFA 90.0 H 3
BIO SCIENCES PHASE 2
BIOLOGICAL SCIENCES NA 288.3
CHEMISTRY 3 GFA 24.0 NA 144.0 E .6 GA 240.0 H 10
GEO SCIENCES GFA 60.2 NA 169.0 E .6 GA 282.0 H 6
PHYSICS BLDG NA 84.1
PHYSICAL SCIENCE NA 97.0
ENGINEERING 2 PHASE 1 NA 124.4
GFA 27.6 GA 165.0 NA 102.0 H 6 E .6
PHYSICAL SCIENCE CENTRE PHASE 2
WING NA 27.8
CHEMISTRY BLDG NA 111.5
PHYSICAL SCIENCE CENTER - PHASE 2 GFA 6.4 NA 42.2 E .6 GA 70.3 H 11
H M TORY BLDG NA 168.0
BUSINESS ADMIN PHASE 2 GFA 9.0 NA 55.0 E .6 GA 92.0 H 9
CAR PARK 2 840 CARS GFA 64.0 H 4
ENGINEERING 2 PHASE 2 GFA 27.0 GA 125.0 NA 75.0 H 5 E .6
CHEMISTRY 2 GFA 24.0 NA 75.0 E .6 GA 125.0 H 4
PHYSICAL SCIENCE CENTER - PHASE I GFA 18.6 NA 100.0 E .6 GA 167.0 H 5
BUSINESS ADMIN PHASE I GFA 18.0 GA 92.0 NA 55.0 H E .6
ARTS 2 PHASE 1 GFA 27.0 NA 70.0 E .6 GA 116.5 H 5
CAR PARK 630 CARS GFA 48.0 H 4
ENGINEERING 3 GFA 65.0 NA 180.0 E .6 GA 300.0 H 5
STRUCTURAL LAB NA 12.1
D E CAMERON LIB NA 110.0
ARTS BLDG NA 58.0
PHASE 2 GFA 39.0 E .6 GA 115.5 H 4
HYDRAULICS BLDG NA 13.6
AGRICULTURE 2 PHASE I GFA 36.0 NA 85.0 E .6 GA 142.0 H 5
GENERAL SERVICES BUILDING PHASE I GFA 42.0 NA 90.0 E .7 GA 126.0 H 5
LIBRARY EXPANSION NA 22.0
AGRICULTURE 2 PHASE 2 NA 58.0 EXPANSION 72.0
AGRICULTURE 2 PHASE 2 GFA 24.0 NA 29.0 GA 48.0 H 2
COMMUNICATION CENTRE GFA 22.0 NA 27.0 E .6 GA 45.0
LIBRARY PHASE 2 GFA 21.6 GA 108.0 NA 67.0 H 5 E .6
LIBRARY PHASE I GFA 54.0 E .6 GA 167.0 H 3
LIBRARY E .6 GA 212.5 H 5
CHEMISTRY 3 NA 108.7
RUTHERFORD LIB. NA 57.8
CAR PARK 785 CARS GFA 81.0 H 3
CAR PARK I 818 CARS GFA 50.0 H 5
ADMINISTATION & HEALTH SERVICE NA 186.0
FINE ARTS PHASE I GFA 56.4 NA 100.0 E .6 GA 167.0 H 4
FINE ARTS PHASE 2
STUDENT UNION EXPANSION
CAR PARK 970 CARS GFA 100.0 H 3
EDUCATION 2 PHASE I GFA 36.1 NA 110.0 E .6 GA 184.2 H 8
EDUCATION 2 PHASE 2 GFA 36.1 NA 82.5 E .6 GA 138.0 H 6
FINE ARTS PHASE 2
LAW PHASE I GFA 62.5 NA 78.0 E .66 GA 118.0 H 4
PHYS. EDUC. BLDG NA 103.6
HOUSEHOLD ECON NA
LAW PHASE 2
CAR PARK 775 CARS GFA 80.0 H 3
EDUCATION BLDG NA 171.6
PHYSICAL EDUCATION EXPANSION
DEPT OF EXTENSION
HOUSEHOLD ECONOMICS 2 GFA 12.0 NA 45.0 E .6 GA 75.0 H 6
FIELDHOUSE & MULTIPURPOSE ATHLETIC BUILDING
CAR PARK 1500 CARS GFA 77.0 H 6
0 100 400

REQUIRED SPACE FOR
30,000 CAMPUS

- ○○○ MAJOR FOOD SERVICE
- □□□□ MAJOR LOUNGE AREA
- ●●● COMMERCIAL
- ⊖⊖⊖ RECREATION

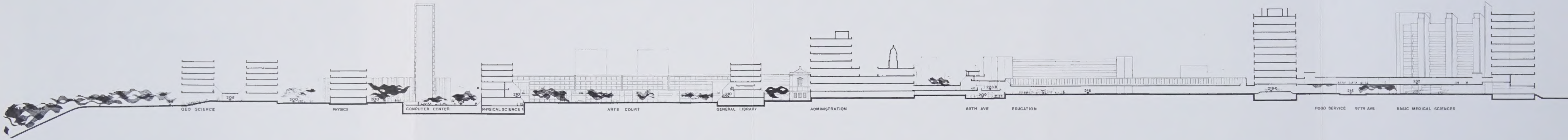
GFA GROUND FLOOR AREA
NA NET AREA
E EFFICIENCY
GA GROSS AREA
H APPROX. HEIGHT BY FLOORS

UNIVERSITY OF ALBERTA
LONG RANGE DEVELOPMENT PLAN

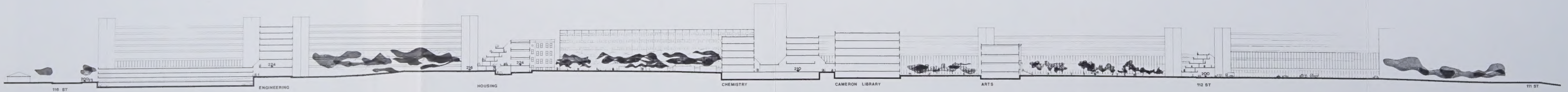
A J DIAMOND AND BARTON MYERS
PLANNERS

DRAWING NUMBER

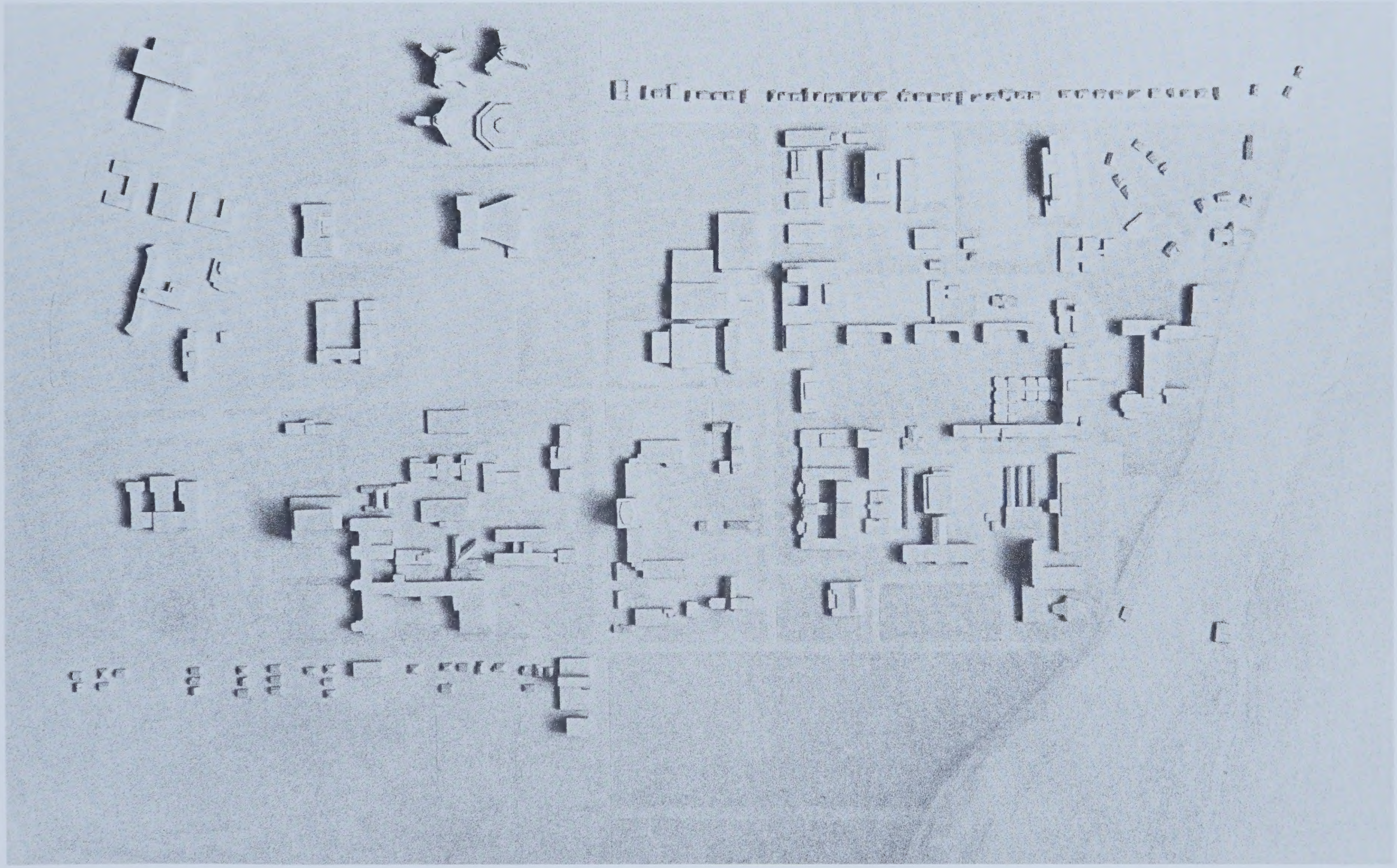
(Diag. 8B)


194
GEO SCIENCE
205
200
PHYSICS
200
194
COMPUTER CENTER
PHYSICAL SCIENCE 1
210
ARTS COURT
210
GENERAL LIBRARY
ADMINISTRATION
223.8
209
89TH AVE
EDUCATION
216
219.6
FOOD SERVICE
216
87TH AVE
232
BASIC MEDICAL SCIENCES

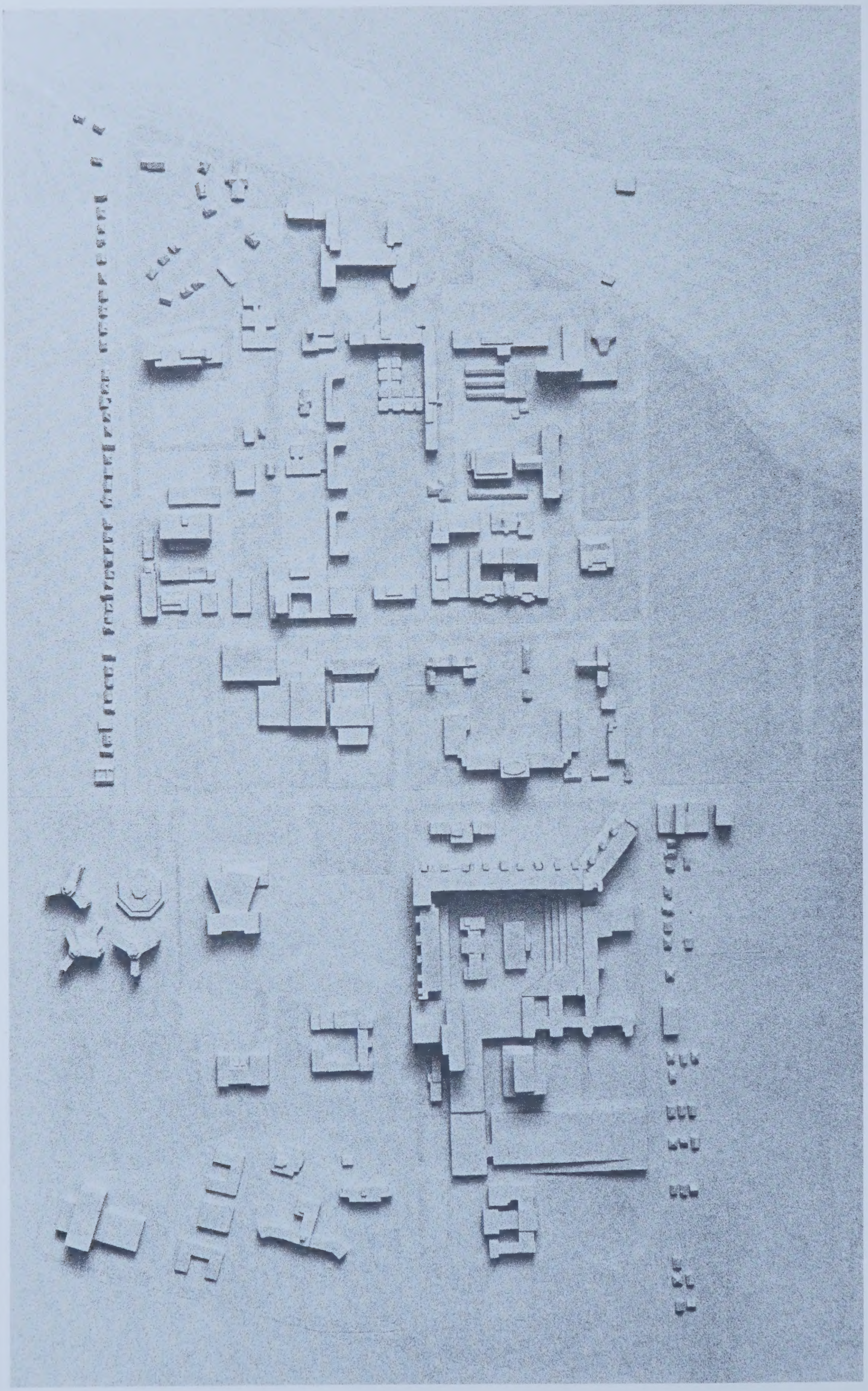
North—South Section


116 ST
200
224
ENGINEERING
216
224
HOUSING
CHEMISTRY
210
CAMERON LIBRARY
ARTS
204
200
112 ST
111 ST

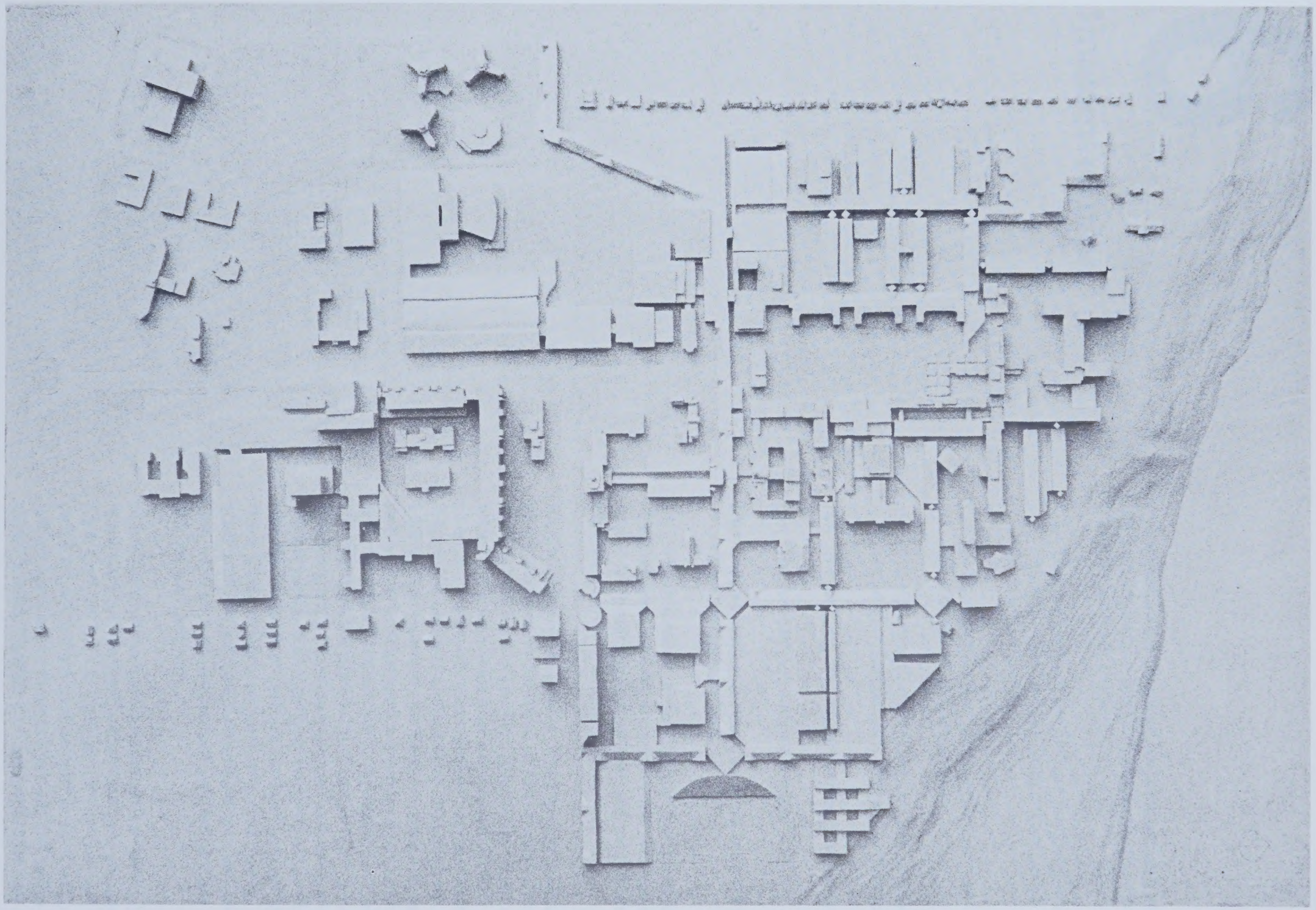
East—West Section



EXISTING CAMPUS



EXISTING CAMPUS AND HEALTH SCIENCE CENTRE



LONG RANGE DEVELOPMENT

6

Implementation

In conclusion, the following are listed as being among the more important steps to be taken for the effective implementation of the plan.

(1) The utilization of the Office of Institutional Research and Planning: Programming as an adjunct to Planning.

(2) The refinement and further articulation of Institutional and Planning goals.

(3) The co-ordination, with the city and province, of traffic movement as it affects the campus.

(4) The devising of methods of allocating budget.

(5) The forecasting of housing needs.

(6) The draughting of means to implement the long range development plan.

(1) The utilization of the Office of Institutional Research and Planning as a staff function to assess needs, test programs and evaluate alternate means: Programming as an adjunct to Planning.

Programming of the general planning goals involves an investigation of the many different ways of accomplishing these objectives. Thus in the implementation of the long range plan, attention must be given to the evaluation of alternate means of reaching specific objectives. The role of the Office of Institutional Research and Planning cannot be over—emphasized in this regard: a common method of arriving at space requirements, for example, is the use of standard architectural formulae or gross programming statistics, such as over-all or average pupil-teacher ratios. Such aggregate measures in planning conceal the range of resource requirements within them. These resource requirements need careful analysis if an appropriate compound is to be selected. Only after such an examination will the physical plan be best designed.

The efficient allocation of resources is a continuing problem. Major capital decisions not only provide a plant that will have to be lived with for the next fifty years but also introduce an extensive set of constraints with respect to operating costs and educational policies. Rapidly evolving technology and educational techniques mean that capital mistakes are even more expensive today than ten years ago. Institutions must be able to adapt. But institutional adaptivity implies more than an ability to adjust educational programs quickly to changing needs. Administrators must also be able to assess the impact of alterations in programs, content and the number of people participating in them—on their institution, its physical facilities, staffing requirements, and equipment in general operating and capital budgetary needs.

Traditionally each institution has had developed for it a master plan showing in very concrete and specific design terms its projected expansion pattern. The expansion is usually shown as more of the same. The new realities of public finance and educational possibilities mean that this approach will no longer be adequate.

Educational planners have generally tended to move from broad statements of educational goals to very specific designs for facilities and budget requests with too little attention given to the link between the two.

From the point of view of planning new facilities, a great deal of uncertainty surrounds each of the factors that must be considered. Some are under the control of the administration and others under different departments of the university. Examples of variable factors are changes in technology, population groups to be served by the institutions, programs of study that will be selected by entering students, staff remuneration rates at some future date, and cost of construction in the future.

The programming phase is the point in the planning process at which uncertainty has to be confronted. Alternative means of programming specific objectives need to be assessed in terms of their resource with uncertain external factors such as those previously mentioned.

Why concern ourselves with the question of structuring explicitly the programming phase and considering alternative ways of planning for change and coping with uncertainty? Isn't the problem of dealing with uncertainty of so many factors just too overwhelming? In order to answer these questions we need to look at what is done now, what penalties are paid, if any, by not considering uncertainty in a more explicit manner and what the possibilities are for coping with this problem.

The problem of structuring the programming phase of the over-all planning process is handled in a number of ways. Most often it is ignored entirely and the step from general planning objectives to specific resource requirements is taken intuitively with little or no attention given to each of the detailed components of the programming phase. Or, the plans of a number of departments, each arrived at in a different way, are summarized. Another common method is the use of standard architectural formulae or gross programming statistics such as over-all or average pupil-teacher ratios.

Problems of uncertainty affecting the possible choices surrounding those decisions that are controlled by the administration, and external factors such as the demand for trained personnel, are usually handled in a very straightforward manner: for each of the factors the range of possibilities is considered and the most likely occurence is chosen. For example, if in the planning process it is necessary to forecast the expected enrolment from the 19—25 age group for each of a number of years in the future, then a per cent of the total number of people forecasted in this range, considered most likely to participate, is used.

These two major considerations—an organized framework for carrying out the programming phase and the analysis of uncertainty—are not two distinct aspects of college facilities planning. For one of the major questions in facing up to the problems of uncertainty has to do with the way in which various methods of programming specific educational plans will be affected by ranges of occurences. That is to say, some educational plans and programs may be better at coping with wide swings from forecasted estimates of enrolment, as against another set of plans and programs, that would be destroyed were the enrolment to deviate even slightly from what had been forecast. This leads us to the next major question. What price are we paying for not dealing more effectively with the problems of programming with uncertainty?

By not considering alternative pedagogical decisions such as class size, teaching methods, teaching aids, combined with administrative decisions on office space allowances, professional work loads, use of non-professional support staff and the economic impact of these decisions, we may not be giving the quality of education that we are aiming for at the lowest possible cost, or we may be ignoring an opportunity to give higher quality education with the same financial resources. In either case, we are not making the most efficient use of the resources at our disposal.

By not considering the impact of uncontrollable variables such as student enrolment or student choice of courses in our pedagogical and administrative decisions we remain ignorant of what could happen. For example, two different educational and administrative programs might be judged equal both in terms of costs and quality. Under one we may be particularly vulnerable to changes in the student enrolment pattern. Under the other we would have a much better structure for coping with ranges of occurrences.

The whole question of flexibility and inflexibility of the physical plan is of course tied up in these considerations. What are the economics of varying degrees of flexibility? To what extent and when in the future might this flexibility be taken advantage of? Considering the likelihood of having to use the built-in flexibility and the point at which it will be needed, are we not better off in some areas to build lower priced fixed facilities and renovate them in the future?

To summarize, the costs we are paying involve the possible inefficient use of resources. This includes ignoring opportunities to supply more or better education at the same cost. Or it may keep us from supplying the same quality and quantity of education at a lower cost. In addition, we might proceed in ignorance of the impact of variations from our forecasts and our capacity to adapt them.

Thus the Office of Institutional Research and Planning and the Campus Development Office should have basic information that can now be incorporated into the university's model on academic and administrative plans. These can be updated and so form the basis for a master program. Such a master program is not like a set of building blocks but rather a statement of resource requirements based on the latest information. The long range development plan can be changed, or possible changes evaluated, by appropriate information fed to the model. When it is thus decided that changes or additions to the physical facilities are needed, prime consultants for each project become involved and the cycle is repeated. The model and the planning data then can be updated to form the basis for continuously adaptable plans. Even after the initial decisions have been made, a re-evaluation of the plan can be made by introducing new suggestions for teaching methods or the latest estimates of enrolment to assess their impact on the plans that have been made, and the way in which these plans might need to be altered. Furthermore, the model combines estimates of both operating and capital costs so that one can carry on an analysis of the trade-offs between various capital facilities and their impact on operating costs.

(2) The refinement and further articulation of Institutional and Planning goals.

The listed goals and objectives should, as noted in the introduction to this report, more accurately be called assumptions. They were formulated in order to hasten the planning process, but require more and careful consideration on the part of the university. This can be done in a structured way, as Temple University has done by constituting a task force for this purpose, or by adjusting the goals and objectives listed in this report.

This is not to say that they need to be formalized or cast as a code, but rather that they should guide action and the operation of the university, serving as a fulcrum for levering policy.

(3) The co-ordination, with city and Province, of traffic movement, in order that the city may make adequate provision of capital budget for the necessary upgrading of the movement network as it affects the campus.

The traffic generated by the university by 1974 will be of similar magnitude to that of downtown Edmonton in 1961. Much of this traffic flow can be effectively directed and controlled within the campus area, as described in this report. The impact on city roads will, nonetheless, be considerable. The city has a roads improvement program of large proportions. Phasing this projected program without regard to the university may well throw unnecessary loads onto university streets, exacerbating the problem rather than alleviating it. In the first instance an examination of the effects of the phasing of the city improvement program is required.

While no firm plans by the city for the university area have been formed, the city has been acting on certain assumptions about the use of streets which bisect and surround the campus. These assumptions have a corresponding effect on capital appropriations for road and intersection improvements. The long range development plan has recommended a traffic network which differs in some respects from that assumed by the city. It is important to note that whatever traffic scheme is adopted, that scheme will have to cope with the same volume of traffic. What requires study are the cost benefits of alternate schemes.

It is the planners' belief that there are considerable advantages to the university, and no extra costs to the city in the long run, in the traffic network they have proposed.

Since the publication of the outline plan in March, steps have been taken to effect the required coordination between university, city and province: a joint technical committee has been formed, and is working with a traffic consultant, Mr. Ross Walker of De Leuw, Cather and Company of Canada, Ltd., who has also acted as consultant to both the planners and the city. It can be reported that (a) the magnitude of the problem is now recognized by all and (b) progress is being made in evaluating alternate traffic plans.

(4) Methods of allocating capital budget. At present separate accounts are used for different categories of building program—academic building (formulae space), parking, housing and food services.

The university is now inadequately endowed with general or "non-formula" spaces—student lounges, extra study space, etc. When budget constraints force a choice between academic or general space, it is not surprising that general space is sacrificed. It is not to be inferred from this that pedestrian streets or general space cannot, by resourceful design, be incorporated in general budgets: on the contrary, there is precedent to indicate that this is possible. However, if a richer mix of activities is to be achieved, for example parking under buildings, food services in pedestrian streets, a greater degree of simultaneity of operating capital budgets and design is required. The benefits would manifest themselves in a cohesive physical plant, a cohesiveness now absent.

There are, naturally, administrative problems associated with this method of operating capital budgets. Again, the benefits to be derived should be weighed against the possible difficulties caused by new financing methods.

(5) Forecasting Housing needs: housing studies to determine the need and demand for the various forms of possible housing.

The assumption made about housing, as first articulated by the planners, was that the university should 'provide housing for all who desire it.' It has become apparent that this statement is too unqualified, and if adopted as a policy would require the university to house many unsuited for such accommodation. The intent, however, remains, and is clarified if it is understood that the aim is to create a university community, where students may enjoy all aspects of life while at university — the convenience of proximity, of social opportunity, of identity, of mix, while retaining the choice of privacy, and the security of personal place.

Besides the device of using expenditures, which must in any event be made, to achieve climate controlled pedestrian ways to link all sectors of the campus, the design of the filtered, looped traffic flows, the rational locus of academic building and the devised flexibility to operate as faculties or schools, perhaps the most important element of the long range plan is the introduction of housing onto the main campus. This might be considered innovative if a survey of current university development plans on this continent were made, but it is not, of course, innovative in an historic context. Many universities effect a close integration between housing and academic activities—Oxford, Cambridge, Harvard, Yale, the University of Virginia, and most recently Trent University, Ontario to cite a few of the best known examples. It is true that these operate on a college system, and the plan for the University of Alberta differs in this respect—it has no nostalgia for residential colleges, nor attempts to approximate such precedent. It merely has housing on campus, used as a link in the movement system, which supports facilities to be used by resident and non-resident alike, in order to create a new form of overall university identity, or academic city.

Studies revealed that a variety of housing forms are required. These varieties are not merely physical, although these too are required, but varieties of operational form, where students might manage the housing themselves, and locational varieties, are required to provide choice. Not all will wish to live at the centre, nor all on more remote sites.

What now needs to be determined is how much of each different form is desired, and to what extent the university will encourage, by the allocation of space and financial assistance, the construction of housing on campus. The studies to date have not given authoratative or convincing evidence on these issues. However, since the publication of the outline report and long range development plan in March, proposals on housing have been received from both the Students' Union and the Graduate Students Housing Commission. These call for 600 graduate and 1000 undergraduate housing units.

(6) Means of Implementing the Long Range Development Plan.

There are at least three ways in which this process can be assisted. The first, which has been accomplished, is the establishment of the Campus Development Office; the second is the design of a comprehensive system for the initiation, development and construction and cost control for each physical increment of the plan; and the third is the appointment of outstanding prime consultants for each project. The appointment of the best prime consultants costs no more, and is the most effective way to realize the policy, adopted by the Board Building Committee, which holds that the quality of the physical environment of the university is important.

In the development of a comprehensive system for processing each project, the first step is the formation of a master critical path, which would coordinate for the Campus Development Office all the events associated with the development of each project. In such a way the appropriate personnel of the Campus Development Office can be assigned to attend each meeting, in order that effective decisions may be reached without delay. In turn the other key persons associated with each project, such as prime consultants and users, would be provided with dates at which their attendance would be required for the orderly development of their project.

As the intent of the long range plan is to gain a coincidence of welfare for the campus as a whole and tenants of each building in particular, the plan has not established fixed design notions for any particular project. This is left for each user committee and project architect to determine. But no longer can each building be designed in isolation. The designs must now satisfy both tenants and campus. The long range plan in general indicates how this may be accomplished. The second step therefore in the development of a comprehensive system for processing each project would be the formation of briefs for prime consultants outlining the detailed constraints of each site in order that ground rules be made explicit, and performance criteria be established. Examples of this might be that a building must form a pedestrian link between two other buildings, or that adjacent open space should be preserved for certain uses, or that light angles to neighbouring buildings should not be interrupted, or that access will be required at certain levels to co-ordinate with other projects.

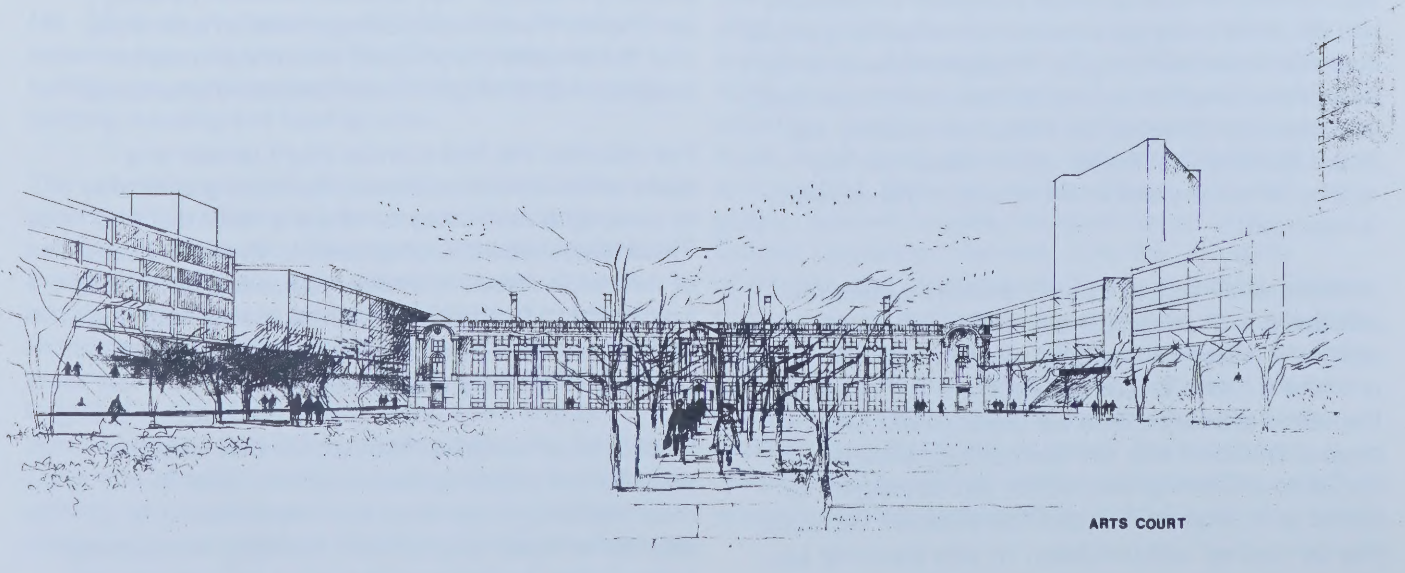
The third step would be the preparation of check lists for users and prime consultants of requirements for presentation at each meeting specified on the critical path or progress schedule. This set of requirements is of much more significance than merely planning meetings: they should structure the design, development and construction process in such a way that the university is ensured, within the limits of budget, of obtaining the most favourable alternative.

For instance, the first exercise might consist of a space analysis of the program, displayed graphically, to scale, with each category of space made distinct. These spaces would be annotated to show the needs of the spaces: (such as service loads, accessibility and juxtaposition requirements, light demands, required forms of acoustic or visual privacy, structural loads, etc.) a form of design specification.

Procedures of analysis, if comprehensive, create an awareness of problems and potentials. Once it becomes firmly established that the university is satisfied with nothing less than the best, and becomes a demanding, but appreciative client, consultants will undoubtedly respond. In fact once this becomes the criterion for the award of commissions, there will be an organic change in the design process and consequently in the product of such efforts.

Subsequent procedures can be devised as appropriate to each stage of development: for example, the benefits of mechanical, structural and electrical alternatives, the methods of integrating them in the overall design, and the costs associated with each alternative, might be described at the appropriate time.

These procedures, monitored in a "war room" of the Campus Development Office, will do much to gain control of what is in effect an enormous construction program. It means of course that the Campus Development Office, using the long range plan as a foundation, can erect the superstructure of implementation. The role of the Campus Development Office, however, is not merely an executive one: testing, seeking better ways of realizing objectives, initiating new ideas gained with the insights gleaned from the day to day operation will be necessary, if the potentials of the development of the university are to be exploited.



ARTS COURT

Appendix A

Assumed Institutional Goals and Objectives

Teaching

Major purpose of the institution: the discovery, transmission, and application of knowledge to the affairs of men.

Goals to:
- lead students to acquire intellectual and professional horizons and to convey to them the essentially endless nature of the learning process.
- encourage in faculty and student that inquiring, challenging attitude towards man and institutions which is essential to a dynamic academic community and a healthy democracy.

Objectives to:
- lay heavy stress on the significance of the teaching process itself and on the faculty member as a teacher.
- provide opportunities for education and self-fulfillment to all who qualify for admission.
- seek ways to free students from narrow outlook.
- stress social and moral values in relationships between faculty members and students.
- develop closer co-operation with the schools systems in the Province, with special emphasis on setting up co-operation and collaboration for academic content and continuity, and university admissions policies.
- encourage fuller participation by faculty members in the campus life of the students and seek new ways of compensating students for the disadvantages of attending a not wholly residential university.
- personalize the education process to reduce the possible alienation of some students.
- broaden opportunity for student participation in campus activities.
- encourage social involvement and avoid the danger of total intellectual withdrawal.
- use housing as an effective agent in promoting an integrated culture within the university — to re-integrate and recreate the university.
- make groupings of people, not the arrangements of operations the basis for planning.
- enhance the effectiveness and efficiency of the teaching process.
- induce and inspire respect for learning.
- encourage students to spend more of their time on campus in study and in contact with fellow students and faculty.
- develop experimental patterns of instruction, especially for under-graduate students who are unusually gifted.
- extend the scope and intensity of graduate and professional programs.

- scrutinize the quality of instruction more closely at both the graduate and undergraduate levels.
- utilize more effective methods leading to better instruction (such as interdepartmental courses, honors seminars, urban field experience, technological aids).
- increase the effectiveness of the library as a basic instrument of learning.
- encourage a balance between basic research and the transmission of knowledge and avoid a distortion of emphasis on research.
- permit the inception of new programs in keeping with the university's flexibility and its desire to be of service.

- place greater and more carefully considered emphasis on "continuing education" for adult students.
- make provisions "to accommodate persons who are equipped to do university work but who do not wish to seek a degree".

Research

Goals to:

- strengthen efforts to discover new knowledge and to add to the common store of ideas in each of the intellectual disciplines.
- take an increasingly significant part in the development of Edmonton as a scientific and industrial centre.

Objectives to:

- encourage and reward research both basic and applied in all units of the institution — but to encourage and effect a balance between the transmission of knowledge and basic research.
- seek and accept opportunities to provide services in research and teaching required by local, provincial and federal government programs.
- seek and accept opportunities to provide services to the industrial and business community.

Community Context.

Goals to:

- recognize the opportunity and the responsibility of contributing to the community in ways in which the lives of those who live in the community will be enriched.
- seek out ways of making special contributions in the fields of the arts and humanities, the sciences and business.
- serve as a catalyst in the community, to relate to the community without becoming absorbed by it.
- ensure that the goals of the university do not conflict with the goals of the community.
- integrate long-range and short-range planning taking advantage of the latest management science techniques such as computer-based simulation and linear programming.
- provide the university with the relevant information it needs to manage its affairs in the most sensitive and economical fashion.
- develop a system of performance criteria in educational administration, so that the various non-academic administrative functions are performed most efficiently.

Objectives to:

- participate fully in an attempt to solve the many problems that face our urban and rural society.
- join with other institutions in this effort to ensure greater economic and social health for the entire area.
- foster the intellectual and spiritual health of the region by placing stress on training for appreciation of the humanities and the performing arts.
- plan capital and physical programs to recognize surrounding community characteristics, scarcity of land, need for rehabilitation and conservation and the development of a viable and dynamic education program oriented towards an urban society and urban problems on the one hand, and for a rural society on the other.
- avoid a perimeter that presents a wall to the surrounding community.
- study the implications of the relationships to the Province and its other educational institutions.

Administration.

Goals to:

- enable the university to compete most effectively with other organizations or social programs for available public and private resources.
- maximize the quality and quantity of education and research from the public and private funds allocated to the university.
- help the university respond quickly and imaginatively to changing educational needs and resources.
- involve faculty members and students in planning the curricula and facilities of the university.

Objectives to:

- establish a program of institutional research to develope planning and budgeting systems that integrate the academic plans of staff and students with resource requirements.
- establish through institutional research the means to analyze effectively the resource implications (space, staff, equipment, funds, etc.) of alternative educational programs and administrative policies — thus helping justify requests externally and make better judgments internally with respect to the allocation of resources.

Appendix B

Feedback

Presentations of the Outline Report, published in March 1969 were made in April 1969 to the Faculties of Education, Household Economics, Physical Education, Engineering, Agriculture, Science, Business Administration and Commerce, and to members of the Student Council and Council of Graduate Students, and the Faculty of Arts in May 1969.

Verbal responses at the presentations were recorded, and the subsequent written submissions, forwarded through the Campus Development Office, were recorded and analyzed. These responses are here summarized in note form:

Faculty of Education.
The location of Phase II of the expansion program, shown at the west end of the present building, was not acceptable: a large part of Phase II expansion is devoted to library space, which should adjoin the existing library. Consultations held between prime consultants and the planners concluded that the building programs for Phases I and II could be accommodated entirely on site shown for Phase I only. Phase II, which is intended in the plan to be built alongside Phase I, will complete the connection between the two wings of the existing building. Considerations lying beyond the concerns of the new Faculty of Education building, which require consideration, are the relationship to the future bus stop on 89th Ave., and the connection to the Basic Medical Sciences building, south of 87th Ave. This linkage could be in the form of a food service, built at the +15'-0" level to create a bridge for pedestrians across 87th Avenue.

A written submission was received from Associate Dean W. D. Neal.

Faculty of Physical Education.
In general the response to the provision and distribution of athletic and recreation facilities was favourable. The use of roof surfaces was accepted as feasible, as the use of artificial turf now makes the utilization of buildings as a substructure a less costly enterprise than would the use of soils and natural grass.

The faculty acknowledged that further work was required on its own behalf, to form a more definitive program of the athletics facilities required for a 30,000 student university, taking climate considerations into account, and further research into artificial ground covers is required.

Faculty of Engineering.
While the location of the Engineering complex was generally accepted, concern over the apparent discrepancies between the space assigned on the plan for Engineering for a 30,000 campus and the calculations of the Faculty for the space required to accommodate the projected enrolment, was expressed. It was affirmed by the planners that the site delineated does have the capacity for the increased space demands of the Faculty. The preparation of a sub-master plan is now underway.

Faculty of Agriculture.
Satisfaction for the site assigned for Agriculture was expressed.

A written submission from Dean F. V. MacHardy was received outlining the response of the Faculty.

Faculty of Science.
The Department of Physics expressed a preference for retaining the present location of the Physical Sciences library, and that a library on many floors would be undesirable.

There was also criticism of the fragmentation of the the Physical Science departments, and the remoteness of the departmental library, as shown in the long range plan. To correct this condition, the planners have now proposed that the present Agriculture building be renovated for Physical Science expansion, and that the Geo Sciences be entirely located on the site proposed for their expansion program only. Thus the Physical Sciences building will be grouped around their departmental library, and will have internal pedestrian linkages to the Cameron Library. The direct connection to the proposed Geo Sciences building will be made via the Chemistry building Phase II. The Department of Chemistry will generally be aligned on a north-south axis, and the Department of Physical Science aligned on an east-west axis, both axes pivoted off the departmental library. A written submission was received from Professor J. T. Sample, Chairman, Department of Physics on Dean D. M. Ross' behalf.

Business Administration and Commerce.
The site proposed was considered by the faculty to be a good one, in that the desired academic linkages to Economics, the Cameron Library, the Computing Centre and Department of Computing Science were satisfied.

No connection to the proposed moot court, attached to the Faculty of Law building, is desired. However, the expansion shown in Phase II of the Business Administration and Commerce building was considered inadequate. It was considered that a building equal in size to that of Phase I would be required. The plan in this report accommodates this possible growth.

Faculty of Arts.
Responses to the proposed change of location for the Departments of Fine Arts and Arts were varied. While the Department of Arts favoured the new site indicated in the Outline Report, published in March 1969, not all the Departments of Fine Arts found the new positions acceptable: the Departments of Drama and Music expressed concern over (1) the loss of the prominent and attractive riverbank site and (2) the possible noise problems associated with 87th Ave. and the future underground mass rail transit line. Written submissions describing either approvals or concerns were received from Dr. J. F. Forrest, Chairman of the Arts Building Committee, Professor N. Parker Davis, English Department, Professor N. Yates, Chairman of the Fine Arts Building Committee and Professor T. Rolston, Department of Music.

A series of studies were undertaken in order to solve as many of the problems posed as possible. The resolution of a number of conflicting demands were made; the long range plan shows the preferred alternative. However, a second alternative is also included in this report (diag. 9).

Library.
The concept of using the library expansion to link the Cameron, North Garneau and Rutherford Libraries was well received, with the qualification that the building form be not long and narrow. The ultimate building form will naturally depend on program requirements; there is sufficient flexibility on the site allocated for the library buildings to accommodate the necessary form. The proposal to convert the South Laboratory to a reading room was endorsed, and the importance of a central drop-off for books underlined.

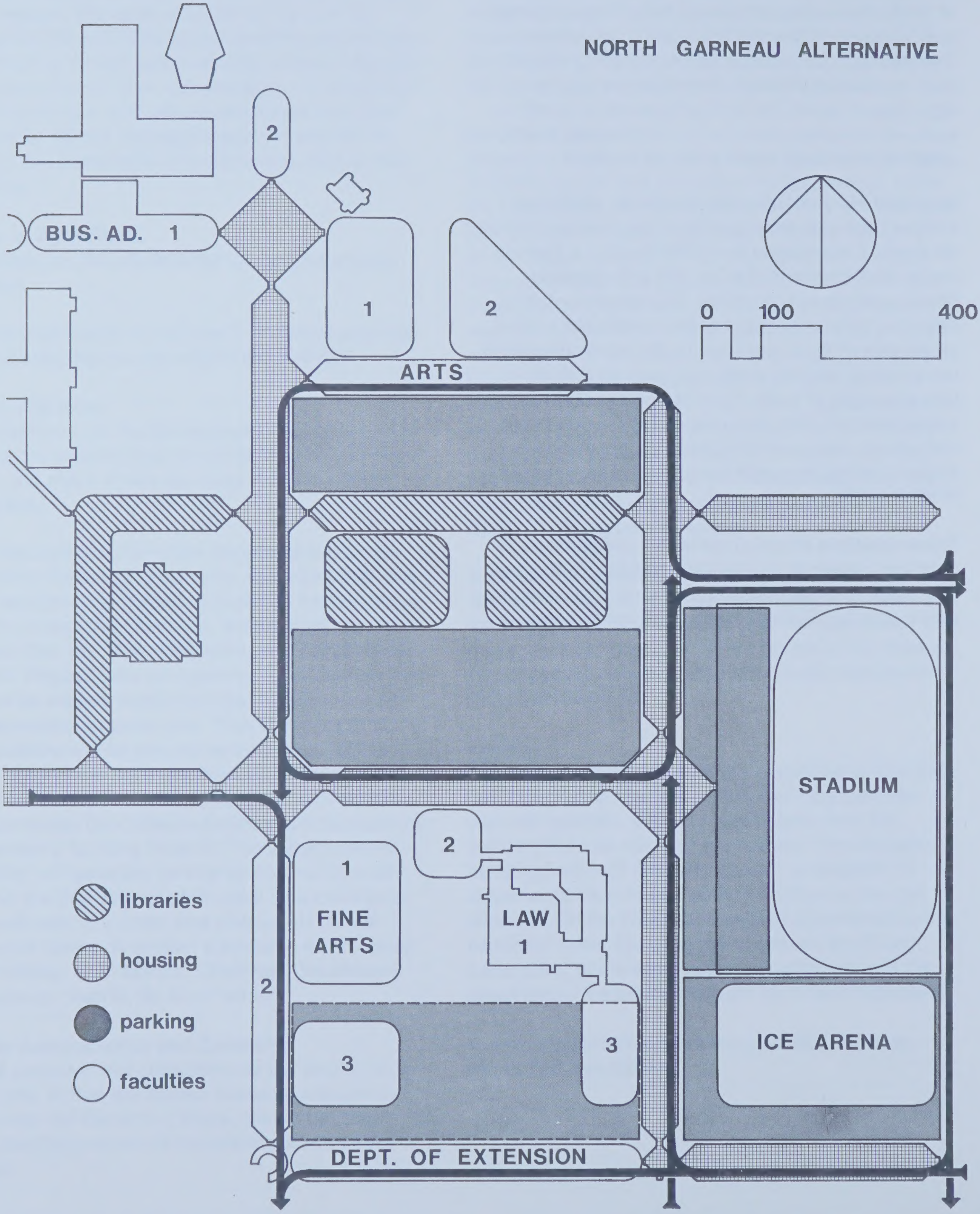
A written submission from the university librarian, Mr. B. Peel was received.

Traffic and Parking.

Several meetings were held with the city regarding the traffic proposals, and some preliminary investigation of traffic flows was commenced by De Leuw, Cather and Company of Canada, Ltd., traffic consultants. Tentative conclusions reached were that significant road improvements would have to be carried out regardless of which alternate scheme was adopted. A joint city-university-province committee was then established to study the alternatives in detail.

In general the problems associated with traffic and parking have both raised points of principle and technical detail. A submission from Professors J. J. Bakker and A. W. Peterson of the Faculty of Engineering poses questions of both kinds. The question of principle they raise is in regard to the modal split — what proportion of those travelling to the university should use public as against private transportaton? What is best allocation of funds for either of these forms of transportation? They also raise questions of a financial nature — what will parking rates be, taking into account capital repayment, mortgage rates and maintenance costs?

These questions are being earnestly considered by appropriate university committees. In addition the joint city-province-university technical committee is at present evaluating alternate traffic and parking schemes.


NORTH GARNEAU ALTERNATIVE
0
100
400
2
BUS. AD. 1
1
2
ARTS
STADIUM
2
1
FINE ARTS
LAW 1
2
3
3
ICE ARENA
DEPT. OF EXTENSION
libraries
housing
parking
faculties

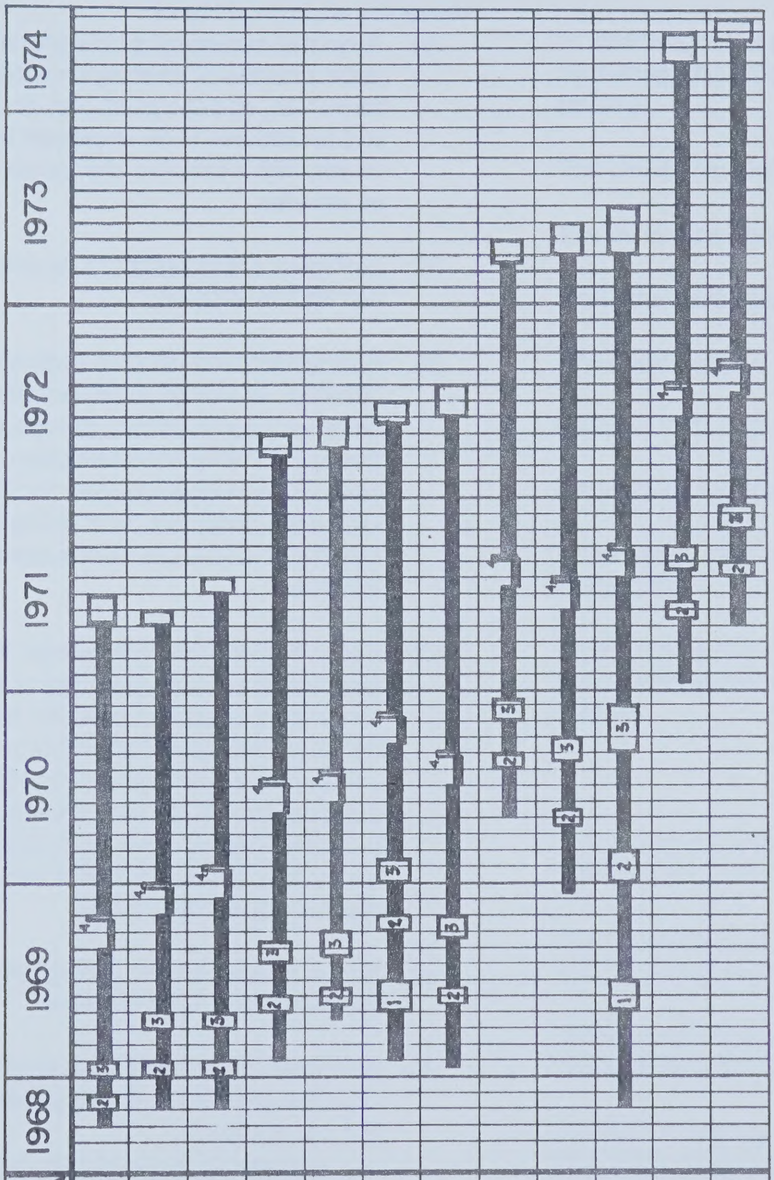
(Diag. 9)

Appendix C

Program Construction Schedule Phase I

Preliminary Planning
Construction Schedule For Facilities

ITEM	NAME OF FACILITY	TARGET COST	TARGET NET AREA
1	BASIC MEDICAL SCIENCES PHASE - I	7,200,000.	131,000
2	FINE ARTS PHASE - I	4,500,000.	100,000
3	ARTS - 2 PHASE - I	3,000,000.	70,000
4	EDUCATION-2 PHASE - I	5,000,000.	110,000
5	CHEMISTRY - 2	5,000,000.	75,000
6	NORTH GARNEAU LIBRARY PHASE - I	3,500,000.	100,000
7	ENGINEERING - 2 PHASE - 2	4,000,000.	75,000
8	BUSINESS ADMINISTRATION PHASE-I	3,000,000.	55,000
9	AGRICULTURE - 2 PHASE - I	4,500,000.	85,000
10	COMMUNICATIONS CENTRE	1,000,000.	—
11	PHYSICAL SCIENCES CENTRE - 2 PHASE - I	4,000,000.	100,000
12	HOUSEHOLD ECONOMICS - 2 PHASE - I	2,000,000.	45,000



LEGEND

1. PREPARATION OF PROGRAM
2. APPROVAL OF PROGRAM
3. DESIGN - PHASE - I
4. APPROVAL OF PHASE I
5. DESIGN - PHASE II
6. APPROVAL OF PHASE II
7. DESIGN PHASE III (CONSTRUCTION DRAWINGS)
8. TENDERING PERIOD
9. APPROVAL AND SIGNING OF CONSTRUCTION CONTRACT
10. CONSTRUCTION PERIOD
11. MOVE IN

DATE: OCTOBER 10, 1968

CAMPUS DEVELOPMENT OFFICE
UNIVERSITY OF ALBERTA
EDMONTON ALBERTA

Appendix D

Terms of Reference

(An excerpt from the agreement between The University of Alberta and A. J. Diamond and Barton Myers)

The plan shall be defined as an assembly of approved material submitted in a manner satisfactory to the University and consisting of:

(a) A written statement of the problem, based upon a review of existing conditions and information, and the principles of organization and procedures to be employed in its solution to establish a basis for the future development of the area.

(b) Sufficient site drawings to illustrate the problem and its solution.

(c) A proposed land use plan indicating existing buildings, buildings to be demolished, and proposed new buildings, giving special attention to the siting and principles of development of additional facilities for Chemistry, Education, Engineering, Parking Structures, the Physical Sciences, and major support facilities.

(d) Recommendations with respect to the long-term use of existing buildings or facilities for which a change in function may be warranted, giving special attention to the Agriculture-Biological Sciences Building, Arts Building, Civil and Electrical Engineering Building, Medical Sciences Building, Athabasca Hall, Assiniboia Hall, Pembina Hall, and the South Laboratory.

(e) Recommendations on pedestrian and vehicular circulation patterns.

(f) Principles of site development which will establish criteria for future growth including, but not limited to

1. pedestrian and vehicular movement systems in relation to items (c), (d), and (e) above;
2. furniture, lighting, graphics and the like; and
3. outdoor recreational facilities, surface parking areas, and the like.

(g) Recommendations as to the location rights of way for major services.

(h) Suggestions with respect to the phased implementation of the Plan based upon information to be provided by the University.

Appendix E

Bibliography.

In addition to the sources listed under **Information Gathering**, the following books served as general reading:

The University Game — Anansi Toronto

The American University — Jacques Barzun

Education and Ecstasy — G. B. Leonard

The Cox Report — Columbia University

Campus 1980 — A. E. Eurich (Editor)

Educational Facilities Laboratories Report:

A College in the City — An Alternative, Campus in the City.

Temple University — Report on Planning Structure and Administration — Evan H. Walker Consultants Limited

The Economic Impact of a University on it's local Community — A.I.P. Journal, September 1963.

Dorms and Berkeley: An environmental Analysis — Van der Ryn, Silverstein

College and University Facilities Survey — U. S. Department of Health, Education and Welfare.

Campus: Comprehensive Analytical Methods for Planning in University Systems: System Research Group

A Theoretical Bases for University Planning — Land Use and Built Form Studies Report No. 1.